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NORMAL AND MORBID CONDITIONS OF THE TESTES FROM BIRTH TO OLD AGE IN ONE HUNDRED ASYLUM AND HOSPITAL CASES.

BY

SIR FREDERICK W. MOTT, K.B.E., M.D., LL.D., F.R.S., F.R.C.P.,

DIRECTOR OF THE PATHOLOGICAL LABORATORY OF THE LONDON COUNTY COUNCIL ASYLUMS.

[*With Special Plate.*]

THE material dealt with in this article was collected from 100 cases of deaths, occurring at all ages from birth to 86, in London asylums and various civil and military hospitals.*

In a majority of the asylum cases, especially those dying at Claybury and upon which I made the *post-mortem* examination, the contents of the vesiculae seminales were examined. In a small number of cases the thyroid, adrenals, and pituitary glands were also examined. In all the hundred cases the testes were weighed and subsequently examined by the histological methods to be described.

MACROSCOPIC APPEARANCES OF THE TESTES AFTER PUBERTY.

It was found that sections of fresh or formol-hardened testes, when examined with a hand lens, revealed naked-eye pathological changes in a majority of the asylum cases; the converse was noticeable in the adult hospital cases.

In the normal testes occurring in cases of death from injury or disease without mental symptoms, the weight of each of the organs, as a rule, was normal. Upon section the tubuli seminiferi appear white, plump, and closely packed together, without appreciable intervening fibrous tissue.

In the asylum cases the most marked deviation from the normal condition was found in two groups of cases—namely, (1) general paralysis, (2) dementia praecox.

(1) The weight of the testes in general paralysis varied considerably. It was not infrequent to find one testis considerably smaller than the other, and the tunica albuginea adherent. The weight is not always an index of the functional efficiency or otherwise. There was no correlation between the naked-eye cortical changes in the brain in general paralysis and the morbid changes in the testes.

In a relatively small proportion of the cases of general paralysis examination with a hand lens of a sectioned testis showed no abnormal naked-eye appearance. In the majority of the cases, however, strands and localized patches of fibrous tissue of variable extent and degree separated the white seminiferous tubules and some of the tubules might appear smaller than normal.

(2) In the regressive atrophic condition met with in the great majority of cases of dementia praecox the tubules appeared attenuated and less plump than the normal, and were either of a greyish colour or did not present the uniform milky white appearance of the normal tubules. There may or may not be an increase of interstitial tissue. As a general rule, the degree of morbid naked-eye change of the testes in dementia praecox conforms to the duration of the mental disease and the clinical signs and symptoms of the mental decadence rather than to any obvious naked-eye changes or defects in the brain. In general paralysis the dementia corresponds in great measure to the degree of cortical destruction; nevertheless, there is no correlation in this disease between the brain atrophy and the testicular atrophy.

With the exception of cases of senile dementia and congenital imbecility with epilepsy, the testes in other cases dying in the asylum did not, as a rule, show any marked departure from the normal—for example, cases of epileptic insanity, Korsakoff psychosis, paranoia, and manic depressive insanity.

Table of Classification of the One Hundred Cases from which the Material for Investigation was Obtained.

Asylum Cases.		*Hospital Cases.*	
1. Dementia praecox	23	1. Born dead or dying before puberty	8
2. General paralysis	23	2. Dying after puberty of various diseases	8
3. Juvenile general paralysis	4	3. Under puberty death from injury shock	1
4. Psychoses—for example, manic depressive insanity, paranoia	7	4. Over puberty death from injury shock	1
5. Epilepsy	3	5. Military cases—injury of brain or spinal cord, with sepsis of variable duration	8
6. Congenital epilepsy, with idiocy or imbecility ...	4		
7. Organic brain disease ...	5		
8. Imbecility	2		
9. Senile dementia (octogenarians)	3		
	74		26

HISTOLOGY.

The following methods of histological investigation were employed:

HISTOLOGICAL METHODS.

1. Examination of the contents of the vesiculae seminales by dark-ground illumination and an oil-immersion lens.

2. An emulsion of the testis was prepared by rubbing up a small portion of the organ in a mortar with Ringer's fluid. The emulsion was examined with an oil-immersion lens and dark-ground illumination. The same method was employed in examining the brain for spirochaetes.

3. Smears of the seminal contents of the vesiculae were stained by Delafield's haematoxylin and eosin, by Heidenhain's haematoxylin and eosin, and with Giemsa or polychrome aniline dye stains.

4. The organs were hardened in 10 per cent. formol solution, and portions of them were cut into sections with the freezing microtome. These sections were stained with scarlet* or Sudan III and some were counterstained with haematoxylin; subsequently the sections were mounted in Farrant's solution. This method was employed to demonstrate the amount and distribution of the lipoid substance. In some cases the sections were placed in Marchi fluid.

5. Portions of the gland were cut out into sections of uniform thickness, after embedding in paraffin or treating with the celloidin method. Some pieces were stained in bulk with haematoxylin and eosin, treated first by celloidin method, and after placing in chloroform subsequently embedded in paraffin. This method is very useful, as thin serial sections can be obtained without any shrinking of the tissue. Giemsa, polychrome or the Heidenhain, eosin and van Gieson stains were used for staining the sections. The films and sections were mounted in neutral Canada balsam.

THE DEVELOPMENT OF THE TESTES FROM BIRTH TO PUBERTY.

The development under normal conditions, and under abnormal and diseased conditions, other than congenital syphilis, will now be considered.

At Birth, and in Infancy and Early Childhood.

1. The testes of full term identical twins, born dead but in a healthy bodily condition, also of a healthy full term child, born dead, were examined.

The histological appearances of sections were as follows:

The seminiferous tubes, seen in longitudinal, oblique, and transverse section, are filled with embryonic cells, lying upon a thin membrana propria; there is no sign of differentiation. The cells have round or oval nuclei, with a delicate reticulum of chromatin and a dense membrane. The cells with round nuclei are the spermatogonia; those with oval nuclei are the cells of Sertoli. The amount of cytoplasm is relatively small, it is faintly stained with eosin and presents a homogeneous appearance. The interstitial tissue is relatively more abundant than the tubules at this stage; it is like ordinary connective tissue, except that *there are groups of fairly large polygonal epithelioid cells scattered through the organ—the cells of Leydig; these cells may be seen occasionally in double rows, with an interval between like a tubular gland* (Fig. I). *These special interstitial cells are very numerous in all the sections. The cytoplasm is three times as abundant as the nucleus; it is stained deeply by eosin. A lipochrome substance may be observed in many of the cells, exactly like the lutein found in the cells of the ovary, in the form of fine light-yellow granules, distributed throughout the cytoplasm. These cells are not unlike liver cells; they stain red with scarlet* (see Fig. I).

2. Sections of a testis of a child, aged 4 months, dead of pneumonia, with a syphilitic rash on the legs, back and head, showed the following appearances: The seminiferous

* The expense incurred for drawings, illustrations, and aid for this research was assisted materially by a grant from the Board of Control. I also wish to express my obligations to the superintendents, medical officers, and others who have kindly provided me with some of the material for this research.

* Scharlach.

tubes have developed considerably by a proliferation of the embryonic cells, so that they appear nearly double the size of the tubes at birth; the interstitial tissue appears relatively less (Fig. II). A few fine lipoid granules, stained yellowish-orange, are seen scattered in the seminiferous tubules, and abundant scarlet-stained granules are seen in the interstitial tissue. *Only a few interstitial cells are now seen; they are smaller than in the testis of the infant at birth.* They can, however, be recognized by the clear outline of the cell—the round, comparatively deeply-stained basophil nucleus, which is easily discerned in the eosin-stained cytoplasm. The lipochrome in the interstitial cells is less obvious than at birth. The appearance of lipoid granules in the seminiferous tubules and in the interstitial tissue may be explained by supposing that it has been, and is still being, utilized by the embryonic sperm cells in their formative activity and proliferation; the interstitial cells now disappear or assume a resting stage, in which they will remain until puberty, when they again appear and become active in the spermatogenic function for reproduction (Fig. V).

3. The testis of a child aged 3½, dead of bronchopneumonia (Fig. III), exhibits smaller tubules than in Fig. II; there is more interstitial tissue, and these two facts suggest that there is some arrest of development.

It is possible that when the interstitial cells of the infant are no longer active the internal secretion has already performed its office of impressing on the body the male characters and upon the nervous system the special instincts and affective characters of the male sex. We do not find any evidence of maturation of the male germ cell; it is otherwise in the female, for sections of the ovary of a female infant aged 18 months showed complete Graafian follicles, with a perfect ovum, zona pellucida, discus proligerus and zona granulosa. It is a reasonable hypothesis to suppose that the cells of the zona granulosa and discus proligerus of these Graafian follicles of the infant produce an internal secretion which impresses on the central nervous system the instincts of the female and the psychic characters peculiar to the sex. Moreover, the continual formation of follicles which do not undergo dehiscence till menstruation occurs may, through a bio-chemical influence on the somatic cells, impress female characters, not only on the mind, but on the growth of the body. If the male characters are dominant in the somatic cells this internal secretion would play an important part in determining the female characters.

Early Stage of Activity of the Gland.

4. The testes of a boy aged 9, who died of shock from injury, exhibited appearances very similar to the following, though less advanced.

5. The testes of a boy aged 11, who died of fracture of the base of the skull, were examined, with the following results:

The basement membrane of the tubules is more distinctly seen; the tubes are larger, generally speaking filled still with only cells such as are seen in the infant, but here and there are observable early stages of formative activity recognizable by karyokinetic figures in the nuclei of some of the spermatogonia and spermatocytes; the sustentacular cells of Sertoli may now occasionally be clearly differentiated, but these syncytial cells contain but few lipoid granules (Fig. IV). There is no evidence of spermatids. *There is some slight fine granule lipoid staining in the tubules, but no interstitial lipoid, so that the interstitial cells are still practically in the resting stage,* appearing as flattened nucleated cells or round nucleated cells, with a small amount of cytoplasm, which when examined with an oil immersion is seen to be stained faintly pink.

After Puberty.

Adolescent.

The vesiculae seminales and testes of a healthy boy aged 15 (Case 6), who died twenty-four hours after a motor accident which crushed the chest, showed the following histological appearances:

Seminal Fluid.—The spermatozoa, observed by dark-ground illumination and in stained films, of the semen from the vesiculae seminales are not so numerous, and appear to be smaller than those in the semen of the normal adult. Spermatozoa were found also in an emulsion of the testis, but they did not appear to be as large as those found in the emulsion of the testis of the adult.

Sections of the Testis.—The tubules are now fully developed, closely approximated, and twice the diameter of those seen in the boy of 11. Nearly all the tubes now show abundance of spermatozoa, and active spermatogenesis in all stages (Fig. V). Numerous groups of interstitial cells are seen, and coarse granules of scarlet-stained lipoid within and around these cells are observable. The interstitial cells appear to lie outside the lymph space surrounding the basement membrane of the seminiferous tubes. *The fine orange-stained granules of lipoid within the sustentacular cells are not nearly so abundant as in corresponding cells of the testis in the adult* (Fig. VI).

It is obvious, therefore, that with the dawn and development of the sexual desire there occur two histological changes—namely, the reappearance of the interstitial cells in an active state, and the accumulation in and around them of these orange-stained granules; and this may be regarded as an indication of the presence of a phosphorized lipoid, which may serve as the raw material from which can be built up the nuclein necessary for the active formative cell processes connected with spermatogenesis. I have purposely said *may* because the other view is that the nucleinic acid is formed from protein and circulating inorganic phosphates (see below), but physiological chemistry has not yet settled the synthetic processes underlying the formation of nucleic acid, which is the main chemical substance in the constitution of the head of the spermatozoon. A further discussion of this subject will appear in another monograph when the results of chemical analysis of the testes in health and disease which are now being undertaken are completed.

Adult.

The following cases afforded an opportunity of examining the testes in healthy adults.

Case 7.

W. L., an engine driver, fell off his engine and was killed. He was brought into Charing Cross Hospital. Sections of the testes showed normal spermatogenesis in all stages; the number of the spermatozoa in the tubules was not so great as in most normal cases. The interstitial cells of Leydig were extraordinarily well seen forming large groups in the loose connective tissue between the tubules (Fig. VII). The basement membrane of the tubules was not thickened. Frozen sections stained with scarlet dye and haematoxylin showed most clearly the cells of Leydig filled with the orange-stained granules of lipoid. The cells of Sertoli are likewise filled with these fine orange-stained granules.

Among the cases dying of injury and in which spermatogenesis is normal, it is remarkable how variable is the readiness with which the cells of Leydig can be discerned. In some, as W. L., they are seen in every low power field in every section; in others they can only be found by searching.

Among asylum cases it has struck me that the testes of general paralytics show these cells in greater numbers than the testes of other forms of insanity. Too much importance must not, however, be attached to this statement, for unless serial sections of both testes were made and examined, a definite conclusion that the hormone cells were in greater numbers in the testes of persons suffering with general paralysis than other persons dying in the asylums is unwarranted.

Case 8.—*Normal Spermatogenesis in the Adult.*

F. H. C., aged 24, was admitted to Charing Cross Hospital suffering with multiple injuries of the pelvis, and died the same day from shock.

Sections of the testis from this case stained for lipoid showed abundant granules in the syncytial cells—so abundant as to form a ring around the tubule within the basement membrane (Fig. VIII). Comparatively little lipoid was seen in the interstitial tissue. Frozen sections stained with haematoxylin and scarlet and mounted in Farrant solution showed interstitial cells containing lipoid granules, but there was considerable congestive stasis in the blood vessels and capillary haemorrhage (doubtless the result of the injury), and this would account for the relatively small amount of lipoid in the interstitial tissue. The tubules show active spermatogenesis in all stages (Fig. IX). This case will therefore serve for the description of normal spermatogenesis.

Normal Spermatogenesis in the Adult.

A section of the normal seminiferous tubule shows a well defined membrana propria, with flattened nuclei, supporting several layers of cells. The layer of cells lying on the basement membrane consists of spermatogonia, and between the spermatogonia are the syncytial cells of Sertoli, which are larger, have oval nuclei, and project inwards between the various layers of cells which are undergoing successive stages of active mitosis, incidental to spermatogenesis. The cells of Sertoli, or sustentacular

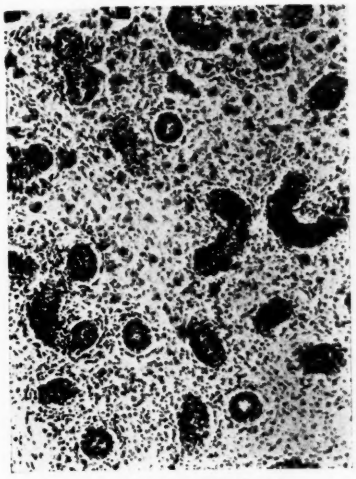


FIG. I.—*Testis of Twin Fetus.* (Mag. 105.)

To the right between the tubules in the interstitial tissue are seen numbers of polygonal cells. These are the cells of Leydig.

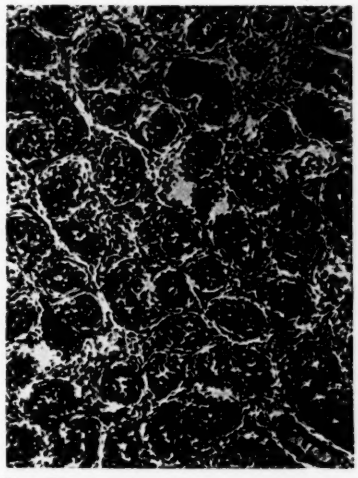


FIG. II.—*Testis of Infant aged 4 Month.* (Mag. 105.)

The tubules have increased to nearly double the size; the interstitial tissue was correspondingly diminished. The cells of Leydig are not visible.

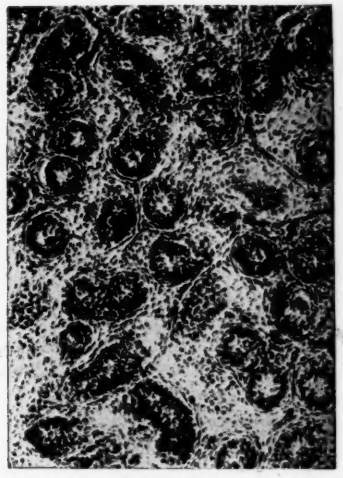


FIG. III.—*Testis of Child aged 3 Years.* (Mag. 105.)

The tubules are smaller than in Fig. II. The cells of Leydig are not seen. There is much more interstitial tissue than in Fig. II.

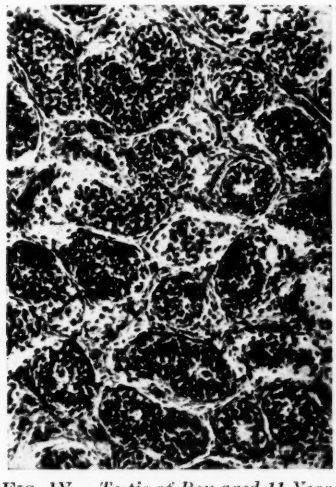


FIG. IV.—*Testis of Boy aged 11 Years.* (Mag. 105.)

The tubules are larger than in Fig. II. The tubules are approximated. There is a small amount of interstitial tissue. The cells of Leydig are not visible.

FIG. V.—*Testis of Boy aged 15 Years; died of Injury.* (Mag. 105.)

The tubules show active spermatogenesis. The fine black dots are the heads of spermatozoa.

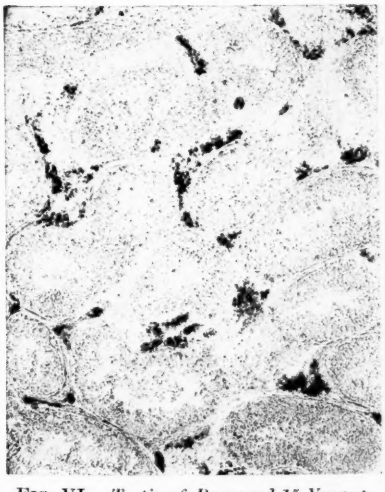


FIG. VI.—*Testis of Boy aged 15 Years; died of Injury.* (Mag. 70.)

Scarlet-stained preparation to show lipoid. The interstitial lipoid (black) is very well shown. Compare the staining of the tubule with the adult, Fig. VIII.

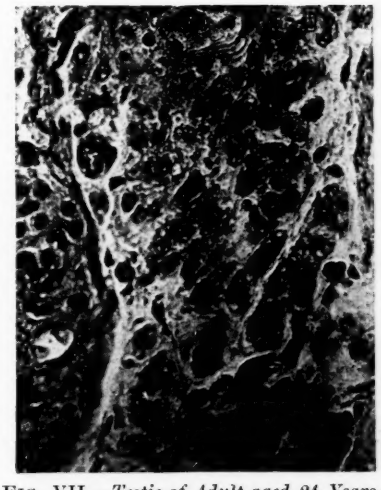


FIG. VII.—*Testis of Adult aged 24 Years; died of Injury.* (Mag. 385.)

Portion of spermatic tubule, with four heads of spermatozoa seen. To the right is a large collection of cells of Leydig, polygonal in form and with a large round nucleus.

FIG. VIII.—*Testis of Adult; died of Injury.* (Mag. 70.)

Scarlet preparation showing abundant interstitial lipoid which appears black. Observe also the black zone beneath the basement membrane. This is due to the spermatogonia and cells of Sertoli being filled with lipoid.

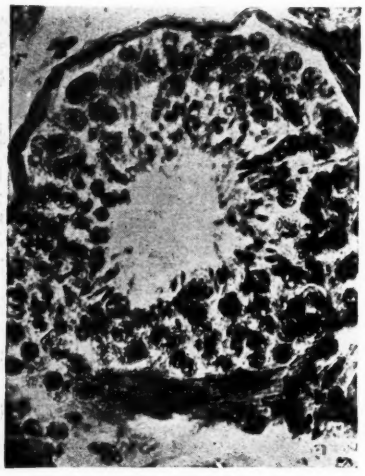


FIG. IX.—*Testis of Adult; died of Injury.* (Mag. 376.)
Transection of spermatic tubule, showing active spermatogenesis.

FIG. X.—*Diagram to illustrate Spermatogenesis.*
I shows the various stages in the development of spermatozoa from spermatogenesis—spermatocytes—spermatids; II, the heads of the spermatozoa dipping into the cells of Sertoli; III, the further stage of development of spermatozoa; IV, mature spermatozoa with tails free in lumen prior to escape. Beneath are two interstitial cells.

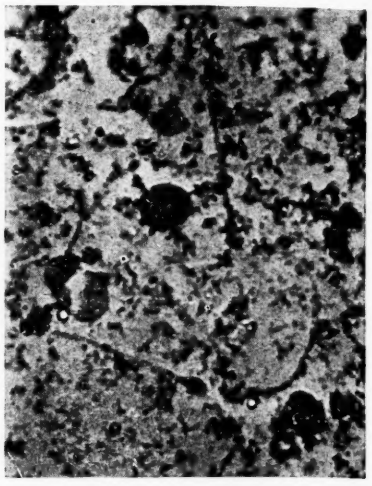


FIG. XI.—*Film of Fluid from Vesicula Seminalis of Case of Dementia Praecox Early Second Stage; died of Acute Lobar Pneumonia after three days' illness.* (Mag. 875.)
The film was stained with haematoxylin and eosin. Only a few spermatozoa seen, and these take the acid dye and are degenerated. Compare with Fig. XII.

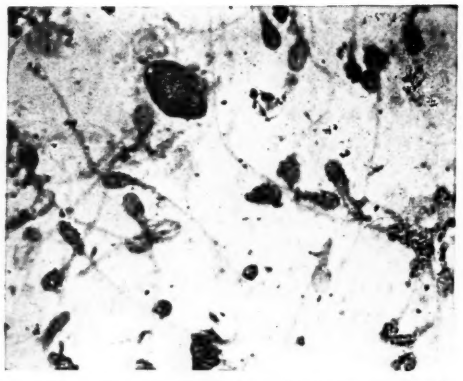


FIG. XII.—*Film of Fluid from Vesicula Seminalis of Case of Manic Depressive Insanity.* (Mag. 875.)
The film was stained in a similar manner to Fig. XI. Observe that the spermatozoa are stained by the haematoxylin, and have a normal morphological appearance.

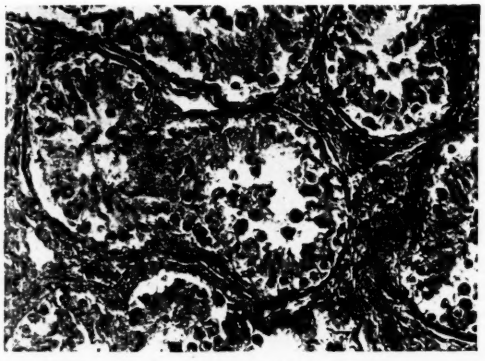


FIG. XIII.—*Testis from a Soldier dead from Sepsis caused by Bullet Wound of Lower End of Spinal Cord.* (Mag. 162.)
Spermatic tubules show no spermatozoa; most of the cells have undergone coagulation necrosis.

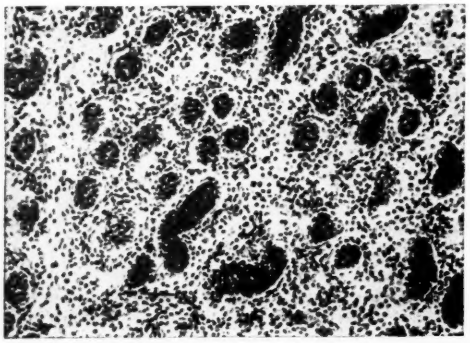


FIG. XIV.—*Testis from a Boy aged 7: dead of Chronic Tuberculosis.* (Mag. 105.)
The tubules are the same in size as at birth. Round-celled infiltration of interstitial tissue. No cells of Leydig seen. Compare with Fig. I

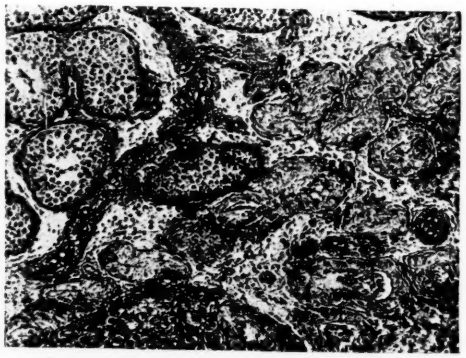


FIG. XV.—*Testis from a Case of General Paralysis.* (Mag. 96.)
To the left are normal seminiferous tubules. To the right are completely atrophied tubules. Below is a part of a nodule of interstitial cells.

cells, are particularly rich in lipoid granules. Within the above mentioned outer layer of cells are larger cells (the spermatocytes), the large nuclei of which show all forms of karyokinesis. The spermatocytes are products of division of the spermatogonia, each of which, on dividing into two, gives rise to one cell like itself, and another which grows larger, and passes into the second layer to form a spermatocyte.

The spermatocytes undergo a division. A product of the division of the spermatocyte again divides, giving rise to spermatids, the number of chromosomes becoming reduced to half the number during this process. The spermatids are small cells with spherical nuclei; they elongate, and the nucleus becomes shifted to one end. The young spermatozoa thus formed collect into irregular groups, and appear deep in the sustentacular cells of Sertoli, which serve as a support and source of nourishment to the young spermatozoa. As they grow and acquire their tails at this stage of spermatogenesis the heads appear to be nearer the lumen of the tubule, and the tails of the spermatozoa project freely into the lumen of the tubule; a little later in the process of development the spermatozoa grow in size and are pushed further towards the lumen, and eventually become completely liberated (Fig. IX).

Examination of the spermatids in haematoxylin eosin stained sections with an oil immersion shows a nucleus stained deeply with the basic dye surrounded by a thin layer of eosin stained cytoplasm. These develop into spermatozoa in the following way: The nucleus becomes shifted to one end, and assumes an oval and then a lance-head shape, and behind this is seen the eosin stained cytoplasm which later, in the Sertoli cells, grows to form the main part of the tail.

The process is continually going on in the seminiferous tubules of the testis, successive crops of spermatozoa being continually produced. The various stages of development may be observed in the normal testis, or even within the limits of a single tubule (Fig. X).

The reduction in the number of chromosomes, which takes place in the formation of the spermatids, is analogous to the casting out of the polar bodies of the ovum; both processes constituting a preparation for the conjugation of the male and female gamete which takes place in the fertilized ovum.

THE LIVING SPERMATOZOON.

The spermatozoon is a living organism produced in incalculable numbers by the testis during the greater part of a healthy man's life, and it may be regarded as the most remarkable organism in Nature, for concealed in its minute structure and bio-chemical organization is the specific energy of the highest vital dynamics of evolution. In a normal emission of man, Lode calculated that there are about 226,000,000 spermatozoa, and that 339,385,500,000 must be produced in man between the ages of 25 and 55.

The semen is the mechanical medium in which the spermatozoa move, and when ejected it is mixed with the secretion of the prostate and Cowper's glands.

Examination of the Contents of the Vesiculae Seminales Post Mortem.

The seminal secretion of the testes is stored in the vesiculae seminales. There may be a biological advantage in this, for I have found that examination of the semen in the vesiculae seminales of people dying of various diseases show spermatozoa in various stages of degeneration. Moreover, in two of the cases the contents of the vesiculae, examined by dark-ground illumination, showed that some of the spermatozoa were still alive and active eight hours after the patient's death. Now the specific energy of these active spermatozoa must have been greater than the inactive dead organisms. Consequently, in a person suffering with disease it is probable that only those with a normal specific energy survive; thus only the fittest are left for fertilization. As will be shown, there is reason to believe that this degenerative process of the spermatozoa may commence in the early stages of normal spermatogenesis.

In many cases of disease, especially dementia praecox, the appearances of the spermatozoa proved that for some time past no living spermatozoa had existed; they all showed appearances of marked degeneration (Fig. XI), the staining reaction was not normal, the heads showed obvious bio chemical and morphological changes; the tails were broken off from many; the heads gave an oxychromatin reaction, staining with the eosin instead of the haematoxylin. Many showed only fine granules of chromatin stained by the basic dye.

I have placed seminal fluid from the vesiculae in a sterilized sealed-up tube and kept it for more than four months, and the same forms could be seen as were observed in the films made at the time the seminal fluid was first collected. This fact is of importance, for it shows that spermatozoa may be found in the vesiculae when active spermatogenesis has for a long time ceased.

Summary of Notes of Special Cases of Interest.

In the vesiculae seminales of a demented man, aged 81, who died of pneumonia, abundant spermatozoa were found; some in various stages of degeneration, but quite a number of the heads took the basic dye as if they were still capable of fertilization. Examination of sections of the testes showed that the majority of the tubules exhibited all stages of active spermatogenesis.

In a case of juvenile general paralysis of the insane, fluid from the vesiculae seminales, examined by dark-ground illumination in pericardial fluid, was found crowded with spermatozoa, a few very active. The majority stained normally with the basic dye.

In a case of typical dementia paralytica, aged 69 at death, in which there was advanced brain degeneration, arterio-sclerosis and cirrhosis of liver, death occurring from bronchopneumonia, the fluid from the vesiculae showed abundance of spermatozoa, mostly degenerated. Still, active spermatogenesis must have been going on while he was in a state of profound dementia.

In another case of paralytic dementia the patient was in good general health till he had seizures which continued for a fortnight, when he died of exhaustion. My notes state that there is little active spermatogenesis in the testes. It is probable that since the patient began to have seizures with prolonged asphyxial conditions spermatogenesis had been arrested. Prolonged venosity of the blood may have interfered with the oxidation process necessary for biochemical decomposition and recomposition processes of nuclear formation. It may be concluded that the vesiculae seminales, which were filled with spermatozoa, had them stored there before he had the seizures, and, as the patient was in an unconscious or semi-conscious state the whole time, they were never evacuated.

THE SEMINAL FLUID IN DISEASE.

The Examination of the Fluid in the Vesiculae Seminales of Cases of General Paralysis of the Insane.

Among twelve successive cases of general paralysis of the insane, of all ages and in all stages of the disease, as regards cortical decay and destruction, spermatozoa were found in the vesiculae seminales of eleven, and in such a condition as to support the view that they had, just prior to or not long before death, been possessed of vitality, and were capable of fertilizing. The one case in which no spermatozoa were found in the vesicula seminalis might have shown spermatozoa in the other vesicula had it been examined.

The evidence of recent spermatogenesis afforded by examination of the contents of the vesiculae in these 12 cases of general paralysis of the insane, accords with the evidence afforded by histological examination of a much larger number of testes, including these 12 and other cases; for I did not find one young or old (excepting a case of juvenile general paralysis of the insane, which began at 8 years of age) in which there was not evidence of active spermatogenesis in some of the seminiferous tubules, although usually scattered through the organ was partial or complete destruction of the sperm cells of some of the tubes, leaving only the basement membrane and sustentacular framework (Fig. XV).

Now, one of the common characteristics of general paralysis of the insane is excessive sexual desire, and masturbation is frequent in both the early and demented stage. Yet, although this is so frequent and may extend over years, it has not been sufficient in any one of the large number of cases I have examined completely to arrest spermatogenesis or produce a similar regressive

atrophy of the seminal tubules to that met with in the great majority of cases of dementia praecox.

Examination of the Seminal Fluid of the Vesiculae Seminales in Other Diseases.

Severe head injuries, even with sepsis, do not, as a rule, arrest spermatogenesis. In one case there was a complete arrest. In two cases of bullet wounds of spinal cord with bedsores and prolonged sepsis there was complete arrest and an appearance of coagulation necrosis of the cytoplasm of the spermatic cells (Fig. XIII). Advanced chronic pulmonary tuberculosis of the most extensive nature may not arrest spermatogenesis. This is of importance, because a large proportion of the asylum cases, including especially dementia praecox, die of tuberculosis. Fourteen out of sixteen successive cases of this disease died of pulmonary tuberculosis.

Masturbation does not Cause Arrest of Spermatogenesis.

A case of mania was of interest in showing that the vesiculae seminales may be crowded with spermatozoa and the testes show normal spermatogenesis, although the notes state that the patient during twenty-five years in the asylum was a pronounced masturbator. It cannot be therefore asserted that masturbation *per se*, even when continued over a great number of years, can produce regressive atrophy of the testes and arrest of spermatogenesis in a male attacked by insanity in adolescence.

Cancer and Spermatogenesis.

A patient, J. G., aged 67, suffered with dementia and died of carcinoma of the stomach. The testes weighed respectively 17 and 15 grams. There was complete arrest of spermatogenesis, but the vesiculae were crowded with spermatozoa, most of them degenerated. This seems to show that the active cell formation of a rapidly growing carcinoma of the stomach may, by its devitalizing action and utilization of all the materials circulating in the blood for nuclear formation, arrest spermatogenesis.

Another case of chronic alcoholic neuritis, aged 65, with Korsakoff psychosis, cirrhosis of the liver and ascites, was of special interest, for the vesiculae seminales contained abundance of spermatozoa, but the testes showed a complete arrest of spermatogenesis. It may be assumed that the spermatozoa found in the vesiculae were formed during the morbid condition above mentioned. But an active carcinomatosis had taken place in the liver, and it is possible to associate the arrest of spermatogenesis, as in the former case, with the active nuclear formation in the liver. This, however, is merely conjecture; it may be only a coincidence, but it is a suggestive coincidence that makes it desirable to pursue the matter further by an examination of the testes in a number of cases of death from new growths.

Excessive Suppuration and Spermatogenesis.

A case of very extensive suppurative pericarditis of some weeks' duration showed arrest of spermatogenesis in the testes, although the vesiculae contained abundant spermatozoa, probably formed before the suppurative process occurred. Here, again, an enormous nuclear proliferation and destruction of nuclear matter must have occurred.

No Arrest of Spermatogenesis in Chronic Microbial Infections.

In cerebro-spinal meningitis, in manic depressive insanity, epilepsy, melancholia, and cases of other forms of insanity dying in the asylum spermatogenesis was still active in spite of fatal microbial disease—for example, acute and chronic tuberculosis and dysentery, which are very common causes of death in asylum patients. Again, bronchopneumonia due to inhalation of food (sometimes with gangrene of the lung), influenza, and typhoid fever are frequent causes of death of the insane.

In hospital cases the same applies. This leads one to ask whether the important genetic function is protected from the effects of circulating toxins. The hypothesis I put forward is that the abundant lipoids, consisting of lecithin, cholesterin, and fatty acids, around and in these seminiferous tubules, serve as a protective barrier against toxins.

Spermatogenesis and Old Age.

Arrest of spermatogenesis due to senility occurs at varying ages in different individuals. The organs of three octogenarians suffering with senile dementia who died at Claybury Asylum were investigated, with the following results. Normal spermatogenesis may occur in a very old man, as the following case shows:

Case 1.—*Senile Dementia.*

W., aged 81, died of pneumonia, February 22nd, 1916. The organs other than the lungs were fairly healthy considering the age. Testicles each weighed 18 grams, and presented a normal naked-eye appearance; an emulsion of the organ revealed, by dark-ground illumination, spermatozoa.

Spermatozoa.—The vesiculae seminales contained abundance of spermatozoa, many taking the eosin stain only, but a large number showed normal basophil staining spermatozoa. Sections of the organs after hardening in formalin showed, when examined with hand lens, very little excess of interstitial tissue, the seminiferous tubes appeared full, plump, normal in size, and glistening white. Microscopic examination of sections stained by the two usual methods showed normal spermatogenesis in all stages; the basement membrane was not thickened; the interstitial tissue was not increased; the testicles were closely approximated and not atrophied. The cells of Sertoli were filled with orange-stained granules. The interstitial cells of Leydig were present and contained lipoid.

In this case the testis was, in fact, as normal histologically as the testis of a much younger man. Indeed, the appearances of virility are far in advance of any case of dementia praecox, and of many other cases dying in the asylums. In contrast with this are the two following cases:

Case 2.—*Senile Dementia.*

C., aged 85. Wassermann reaction negative in blood and fluid. Testes not weighed. Vesiculae seminales not examined. Scarlet preparations. Coarse lipoid in the centre of the tubuli seminiferi. Tubules atrophied, interstitial lipoid occasionally seen. Hematoxylin and scarlet: no spermatozoa observed anywhere. The seminiferous tubes were in all stages of degenerative atrophy, from an appearance of thick basement membrane, with a few layers of nucleated cells and coarse granules of lipoid, to a condition in which the whole tubule was filled with large vacuolated cells; the only part which took the stain was the nucleus, which was flattened against the wall as in a fat cell. These filled the whole lumen, and were apparently the swollen sustentacular cells, filling the space previously occupied by the spermatogonia and spermatocytes. Here and there groups of interstitial cells containing lipoid could be seen; they appeared to be undergoing atrophy. In other places they stood out clearly in groups between the markedly degenerated and atrophied tubules.

Case 3.—*Senile Dementia, Pleurisy with Effusion, fairly Recent.*

T. S., aged 86. Testes: right 11.5 grams; left (small) 8.5 grams. Sections of the testicles showed microscopic appearances in some ways similar to those of the late stages of dementia praecox, except that the membrana propria was not much thickened, the interstitial tissue was less increased and the epithelium in the tubules showed more nuclear staining. There was a continuous layer of spermatogonia; the cells of Sertoli were not conspicuous. The layer of spermatocytes showed, as a rule, well stained karyokinetic figures of the nuclei but the cytoplasm was vacuolated. This vacuolation was due to lipoid contents. Only very occasionally was a tubule found in which there was evidence of heterotypical nuclear division, reduction of nuclear substance, and formation of the spermatids. When spermatids were seen they took the basic dye well. In a few tubules occasional well shaped spermatozoa could be seen. Fairly numerous groups of interstitial cells, smaller than normal, and the majority containing lipochrome pigment, were observable.

Possibly the persistence of the interstitial cells may account for an increased and perverted sexual appetite in old men, due to a stimulation of the desire without the power to perform the sexual act.

Arrest of Spermatogenesis from Birth to Adolescence.

1. *Complete Arrest before Puberty.*

Examination of the testis of a child, aged 7½, dying from tuberculosis pulmonalis, showed a condition of the tubuli seminiferi like those at birth (Fig. XIV).

There was a pronounced round cell infiltration of the interstitial tissue indicating a chronic inflammatory condition. No interstitial cells of Leydig could be seen. Scarlet stained preparations showed no interstitial lipoid granules. A few granules could be seen in the embryonic spermatic cells.

Speculating upon the cause of this arrest, seeing that neither tubercle bacilli nor evidence of tuberculous deposit could be found in the testis, it may be supposed that the child possessed a low vitality and that nature never intended reproduction.

2. *Arrest at Puberty.*

The following are examples of arrest at or soon after puberty:

Boy, aged 16, died of chronic morbus cordis of long standing. The tubules were atrophic and showed miniature development. As in the testis at birth, the tubules were separated one from another by abundant interstitial tissue. There was no evidence of formation of spermatocytes or spermatozoa; in fact, the epithelium retained to a great extent its embryonic character, and there was little evidence of mitosis of nuclei. The membrana propria was thickened, and chronic passive congestion had given rise to an interstitial fibrosis; no interstitial cells could be discovered.

As a contrast the following acute case of morbus cordis may be cited:

A young man aged 21 died suddenly of cerebral haemorrhage caused by aneurysm due to infective embolism. There was ulcerative endocarditis. The seminiferous tubules are of normal size and are packed together with very little interstitial tissue; normal spermatogenesis with abundant lipoid in the interstitial cells, the spermatogonia, and cells of Sertoli.

Chronic disease of long standing before puberty is associated with complete arrest of spermatogenesis at puberty. This fact has been shown by an important research of Kyrle[1] on the disturbances of the development of the male generative organs at all ages from birth to adolescence. He has demonstrated the fact that chronic constitutional diseases, such as tuberculosis, are associated with arrest of development. One hundred cases were examined; among these, seventy-six were highly undeveloped; of the remaining twenty-four by no means all were normal; more than half showed distinct underdevelopment. Only ten were certainly normal.

Kyrle states that at the first glance it would seem that the under-development of the testes in chronic tuberculosis was due to the effect of the toxin. He points out, however, that out of thirty-nine dying in the first year of life, twenty-nine had undeveloped testes, but only one of these died of tuberculosis. He thinks this proves that the undeveloped organ is already undeveloped when the individual is affected by the disease.

He concludes that a considerable number of children are born with undeveloped reproductive organs. The development of the whole organism is directly under the influence of the reproductive organs. Individuals with undeveloped reproductive organs have less vital resistance to disease than those with normal reproductive organs. Among the children dying with undeveloped seminiferous tubes far the greater number were physically underdeveloped. The greater number of those dying in early life had undeveloped testes. Kyrle asks the question whether this is a kind of natural selection by which individuals of little genetic worth are cut off in early life.

REFERENCE.

[1] Kyrle, Dr. Josef: Ueber Entwickelungstörungen der Menschlichen Keimdrusen in Jugendalter. *Wien. klin. Woch.*, November 10th, 1910, No. 45. Aus dem pathologisch Institute in Wien.

(*To be continued.*)

An Address
ON
CANCER.*

WITH DEMONSTRATION ON THE EPIDIASCOPE.

BY

PROFESSOR J. RUTHERFORD MORISON, F.R.C.S.

A WEEK ago, when I was at the War Hospital, Gosforth, Major Reader, on our round, showed me five cases of malignant disease in soldiers. The first had a cancerous stricture of the oesophagus; the second had cancer of the stomach; the third had intestinal obstruction due to general cancerous peritonitis; the fourth was a man with hopeless inoperable carcinoma of the rectum; and the fifth a man with cancer of the prostate and secondary deposits.

These soldiers, of course, were not old men. The man with cancer of the rectum was only 20 years of age. We used to think of cancer as being associated with old age. So it is; but there is an increasing amount of cancer in the country, and it is increasing more in the younger people than in the older, I think. When I saw the wounded soldiers and saw those hopeless cancerous soldiers together, I thought what a blessing it was to be wounded instead of to have been caught with cancer.

The fact is this, that tubercle and syphilis and cancer—all of them very closely related—kill more people every year than were killed in any year of the war. We ought to face these facts and make war upon them. We have finished with the Huns, now we ought to make war upon cancer; and how is it to be done?

My brother, the medical officer of health for Cumberland, wrote a paper about a year ago in which he advised that periodical examination of every one in the country should take place at least once a year—he said once in six months, but at least once every year. That is the only way to deal with and to prevent these scourges, or discover them early enough for successful treatment. Sanatoriums for tuberculosis have been proved, almost proved, to be useless except for the individual. The treatment of syphilis in the new venereal centres may be satisfactory enough for the individual, but is of small national benefit.

What we want to do is to have everybody examined once a year and all the syphilitics to be sent to an island and to be kept there until they are cured; nobody to be allowed to enter or leave the island without a doctor's passport, and nobody to enter England without being examined by the Port Authorities. This would eradicate syphilis in two years as hydrophobia was banished. We know that this is true, and, whether popular or not, we ought to have the courage to preach it. That is the only way to prevent, or at all events to recognize, early cases of cancer.

We know about cancer a few things; we do not know the great thing—its exciting cause—but we do know a large number of predisposing causes, so that in many cases it is possible to prevent cancer. Then we know that cancer can be removed by operation, and, if a good operation is done early enough, with a large and steadily increasing percentage of success. I do not say operation is the last word in cancer; it is not. There will eventually be something better, but meantime we are to deal with what we know, and this is that from 75 to 90 per cent. of early cancers can be cured by a satisfactory operation.

PREDISPOSING CAUSES.

The following specimens and photographs, shown by the epidiascope, will impress upon you the predisposing causes of cancer and the importance of early diagnosis.

1. Here is a clay pipe smoker's epithelioma of the lip. It at first appeared as a little scaly, corny patch, which may have existed for three, four, five, six, and even ten years, and then it got a little crack in it. Even the crack could heal with some ointment, and things returned to their normal condition; but there came a day when this crack spread and it developed into an epithelioma of the lip.

2. Here is a chimney-sweep's cancer. This is a very unusual condition, because there are multiple primary foci. Now if you see multiple sores you think it cannot be cancer, but it is so in this case. From irritation of soot in the breeches we may get multiple foci of cancer.

3. This photograph is from an infirmary patient of mine. He was a paraffin worker and he got a paraffin burn, which developed, as you see, into an epithelioma.

4. Here is another example of chronic irritation—chronic superficial glossitis. This tongue spells syphilis, tobacco, alcohol, leucoplakia, and cancer.

5. A case of leucoplacic tongue, one developing carcinoma in the middle. The tongue had been like this for ten years. Some leucoplacic tongues are curable by *x*-ray or radium treatment—about the only thing as yet which seems to do them any good.

6. A case of leucoplakia, also of long duration—very long duration—but no cancer. Of course you would not advise this man to have his tongue out. You would knock him off his tobacco and alcohol, and give him some antisyphilitic remedies and *x*-ray treatment, and get him to come up for observation every three months; at the least sign of cancer you would have the tongue out.

7. Here is an instance of leucoplakia of the vulva. Leucoplakia does not develop only in the tongue; it may come on the vulva and on the penis, and wherever it is it is apt to develop an epithelioma.

8. Here is a burn scar. In my own experience of old burns, if the scars do not heal very few of the cases escape cancer. This man had his leg burnt when he was young, and at the age of 30 an epithelioma developed on that burn. The scar never was quite healed. It broke down from time to time and discharged a little and then skinned over, but it never was a sound scar. That scar ought to have been removed and the scar area replaced by skin grafts or flaps from the other or the same leg.

X rays, of course, are another well-known cause of burn giving rise to epithelioma. I have seen quite a number of

* Given before a Scientific Meeting of the North of England Branch.

lupus cases treated by *x* rays that have or have not been cured of their lupus, but have developed epithelioma in the same area.

Cancer in China is very common in the pharynx and in the oesophagus, and for a long time it was difficult to find any explanation of it. Eventually it was discovered that it occurred only in men, that women almost never developed either cancer of the pharynx or of the oesophagus, and the explanation of that was probably found. It was this, that at meals men are served first, and they get, and swallow, their rice boiling hot; ladies have to wait until the men are satisfied, and they get their rice cold.

9. The case of an old field lady. She worked in the fields, and her left eye was not very good at holding tears; the tears ran down the face, and here you see that the chronic irritation from cold, exposure, and tears has caused an epithelioma.

10. Here is a curious oesophagus with a stricture at the lower end, a congenital stricture, and here at the upper end is a cancer which has burrowed its way from the oesophagus into the trachea. Owing to the chronic irritation of food in the oesophagus, cancer has developed at the upper end of the dilated oesophagus.

11. Here is a carcinoma of the penis with the usual predisposing phimosis.

Simple Tumours.

Another predisposing cause of cancer is the presence of simple tumours. We separate simple tumours and malignant tumours, and we think we have done a clever thing; but there are many simple tumours that tend very strongly to malignancy. Most simple tumours predispose to it to some extent, but there are simple tumours so closely associated with cancer that I want to draw your attention to them.

Some of you who are old enough will remember the case of the ex-Emperor of Germany's father, and how the surgeons, English and German, quarrelled about it. He had either a simple papilloma or a malignant papilloma of the larynx. Now a papilloma is almost always, in a person above 40, potentially malignant; and it proved so in the German Emperor's case. He died of cancer of the larynx. On removal of a portion for microscopic examination it was reported to be simple.

These specimens will illustrate my point:

12. This is a woman with scirrhus of the breast. She had got a tumour of the thyroid. Now I have been struck with the frequency with which women who have thyroid tumours develop cancer of the breast.

13. Here is another papilloma that is very often indeed followed by cancer. I have operated upon a great number of these cases, and 75 per cent. of them have come back, after some years even, with cancer on the site of the papilloma of the bladder. Now these cases are very easily discovered. Cystoscopy will show you "red seaweed trees" growing into the boracic lotion in the bladder.

14. Here is another form of papilloma that is very apt to develop into carcinoma, a papillomatous condition of the ovary. This ovary is cystic, and in connexion with the cysts there are papillomata.

15. Here is a condition in the rectum described by proctologists as mucous polypi. These mucous polypi and adenomata and papillomata in the rectum and colon are very frequently indeed associated with cancer, and it follows their development.

16. This is an ordinary thyroid tumour. In a man you think that is a simple growth, and so it is. It is now not doing the slightest harm, but a certain percentage of these in later years develop into carcinomas. If a patient with a thyroid tumour finds that it is beginning to grow larger, and especially if it grows larger quite quickly after he is 40 years of age he is very likely developing a carcinoma or a sarcoma of the thyroid.

Another familiar type of tumour that is apt to end in a carcinoma is what we call parotid tumours. You find, the first time you see such a case, a nice movable tumour the size of a half-orange, and you cut it out without any difficulty, and you send it to the pathologist. He writes back to tell you that it is a myxo-chondro-myo-adeno-fibroma. The patient comes back to you after having it removed, with a recurrence, three, four, or even five years perhaps, and next time the tumour is a little more fixed—more difficult to get out; then it recurs more quickly still, and in the end that is the condition—a malignant growth of the parotid. So these parotid tumours, however simple they may seem, ought to be all removed in their earliest encapsulated stage.

We come now to another thing—sarcoma. Of course sarcoma is cancer.

17. This condition has many names—von Recklinghausen's disease, neuro-fibromatosis, molluscum fibrosum; all these things are the same. This woman came out in little spots, and they look like little soft fibromata, but when you take them between your finger and thumb they melt away—there is no resistance. These patients are apt to develop large sarcomatous nerve tumours.

18. This is another instance of the same condition. People are not familiar with them. I am surprised to find that very often even the best of our students have never seen such a case. Look at the patchy soft tissue on her hand; her breast has thickened patches, and the skin is discoloured in spots and patches.

19. This is a different type of disease—what the pathologists and other people call keloid. It is a fibroid tumour in cicatrix, and some say a fibroid sarcoma in the cicatrix. As a matter of fact it is malignant, because if you excise it you get a bigger and bigger thing. Every time you excise you get a bigger growth.

20. Here is a photograph sent by Dr. Burman, an old house-surgeon of mine now in South Africa. This native came to Dr. Burman because nobody would employ him. He begged to have these enormous keloid tumours removed. Dr. Burman removed one and sent me this photograph. The patient had one ear tumour taken away, the other left. The tumours grow from earring holes. You see the keloids on the rest of his body. These, Dr. Burman tells me, are the result of native medical treatment. The natives and lay doctors put lances and punctures into everything; they are where we were fifty or one hundred years ago.

How Cancer Commences.

Cancer begins always in one of two ways: as a tumour or as an ulcer, or I should say as an ulcer and as a tumour. Characteristics of the cancerous ulcer are these—that there is growth in excess of destruction.

The cancerous tumour has four characteristics: its consistency is hard, its surface is nodular, its edge is merging off into the surrounding parts (not like a walnut or potato in the tissues), and it is generally fixed and infiltrating the surrounding structures. These are the characteristics you look for in cancer.

21. Here is a cancerous ulcer. This is the anus and a cancerous ulcer of the rectum. The rectum is split open. You see the thickened edge of the ulcer all round. There is growth, there is destruction in the middle, there is growth in excess all round.

22. Here is what is called a Cock's tumour, a rare form of epithelioma. I think this is the only case I have seen. I got this photograph at the infirmary. A very exceptional case. You will see it is like a cock's comb, but Cock was the name of the surgeon. This is between an ulcer and a tumour. The tumour is ulcerated on its surface and nodular.

23. Here is a breast showing how cancer can commence. If it begins in the breast you always think of cancer there as a tumour, because in 99 cases out of 100 it is a tumour; but it occurs as an ulcer, and when it does (Paget's disease or Paget's eczema) there are ulcerated red patches round the nipple, which in this case is retracted. That woman had a tumour as well as an ulcer.

24. This is a typical scirrhus—a large, stony, hard nodular tumour in this breast, with shelving edges and tucking the breast up. In the majority of women the left breast is rather lower than the right. The right breast is much lower than the left in this case and the nipple is retracted—quite a characteristic appearance, sufficient for you to make a diagnosis.

Method of Spread.

We now come to the method of the spread of cancer. Of course, to know anything about the prognosis and treatment of cancer, you want to know how it spreads. It spreads just the same as tubercle and sepsis do, in the same four ways:

1. By continuity.
2. By contiguity.
3. By the lymphatics.
4. By the blood.

25. Here you see carcinoma of the stomach. This is a cancerous ulcer of the pylorus which spread all the way along, involving the whole of the pyloric end of the stomach by continuity. It lies next the colon, close to the transverse colon, which is involved by contiguity. The lymphatic glands along the lesser and greater curvatures are evident.

26. Here is an example of probable blood infection. Some people say that cancerous bones are the result of the lymphatic spread. In this case the humerus is broken in the middle, through a cancer secondary to scirrhus of the breast. It is very common to get bone cancer secondary to scirrhus of the breast. I have seen quite a number of cases operated upon, patients who complained of "rheumatism" in their arms, "rheumatism" in their back, and they had cancerous growths. You must not operate upon a patient who complains of "rheumatism," however favourable the case, until you have had an *x* ray to see if there is any growth or not in the bones.

27. This girl had a pigmented wart on her back. It grew hard and was cut off. Within six weeks she was in this condition, dotted all over her body with deposits of melanotic sarcoma or carcinoma.

28. You see here the metacarpal bone of a child. Here is the lower epiphysis of the radius. That child had sarcoma of its testicle removed and developed a growth in the bone.

Diagnosis of Cancer.

It would be correct to say that no case of cancer begins with pain. There is a popular delusion that cancer is always a hideously painful thing, and people come with advanced disease who say they did not come before because they never had any pain.

The early diagnosis of cancer is one of the more difficult problems. A patient over 40 years of age comes with haematuria. What is to be done? Send him for cystoscopy straight off. In eight times out of ten the man of over 40 with haematuria has cancer somewhere in his genito-urinary tract.

If a woman over 45, or after menstruation has ceased, has haemorrhage, and no simple cause can be found, the sooner she has her uterus out the better. Nothing may be found in one case out of twenty, but in the other nineteen there is carcinoma somewhere.

In nineteen times out of twenty, if a man comes to you over 40 years of age and he cannot swallow, and he shows you he cannot swallow, he has got carcinoma of his oesophagus. *X* ray with bismuth meal will clear this up.

The first symptom of carcinoma of the stomach is "indigestion." A man of 50 who has never had indigestion all his life and comes to you complaining of indigestion which Gregory powder has not cured, nearly always has carcinoma. You must have him examined with a test meal to show whether he has got a normal acidity and have him *x*-rayed by a specialist. Now examination of the stomach by the radiologist is sometimes derided and said to be of no value, but that is because people have not got the right man to examine the stomach. The *x*-ray stomach specialist can diagnose cancer of the stomach in almost every case which comes early.

Stricture of the sigmoid colon is a very common result of carcinoma. These patients say they have never had any trouble with their bowels before. Now they have to take medicine and the longer the time the more the medicine, and the longer time the more the rumblings inside. If a patient of 50 comes to you saying he has got constipation and cannot get rid of it, and he has rumblings inside enough to keep his family disturbed or even to disturb himself—think of carcinoma, because if it can be diagnosed early it can be treated with great success.

ENLARGEMENT OF THE THYROID GLAND IN MALARIA.

By J. B. HUME, M.R.C.S., L.R.C.P.,

DEMONSTRATOR OF ANATOMY AT ST. BARTHOLOMEW'S HOSPITAL; LATE CAPTAIN R.A.M.C.

ENLARGEMENT of the thyroid appears to have hitherto been an unrecognized complication of malaria. Some thirty cases of it came to my notice during the East African campaign; and I recorded some preliminary observations in a paper before the Dar-es-Salam Medical Society on May 18th, 1918. My interest was the greater because in June, 1918, during an attack of malaria, I developed a marked enlargement of the gland myself.

The condition is characterized by an acute enlargement of one or both lobes of the thyroid gland during an attack of malaria, and occurring some twelve to thirty hours after the fall of the temperature.

All the cases were among white troops, soldiers with varying periods of service in German East Africa, the majority of whom had had several attacks of malaria. None of them gave any history of goitre, or even of fullness of the neck previously; in several instances I had made a definite note of the absence of thyroidal swelling on admission. In no case could I obtain a family history of thyroid disease.

Malarial parasites were found in the blood in every case, usually in rather scanty numbers. Subtertian forms predominated, but benign tertian, and mixed infections also occurred. No opportunity presented itself of studying the condition *post mortem*.

In a typical case the enlargement of the thyroid appeared suddenly, in the course of an attack of malaria, from twelve to thirty hours after the fall of temperature. The previous pyrexia had lasted from one to three days, and no subsequent rise of temperature occurred. One or both lobes became markedly swollen, and somewhat painful and tender to touch. There was no redness of the skin, the consistency of the swelling was uniform, and it showed all the characteristics of a generalized enlargement of the gland.

Dysphagia, in varying degrees, was a prominent symptom. Pain and throbbing in the head were frequent. There was usually a slight muscular tremor. In only two cases was there any exophthalmos. Tachycardia was very constantly present, the pulse rate being usually in the neighbourhood of 100–110, but sometimes as high as 130. Some alteration of the heart sounds at the pulmonary base was common—either a systolic bruit, or an accentuation of the second sound. The spleen was enlarged at some stage of the attack in about 70 per cent. of cases.

The treatment was usually carried out on routine lines. Quinine bihydrochloride was given by the mouth, and in a few cases also by the rectum. The usual procedure was to give 5 grains, three-hourly, omitting one dose in the night, over the first four days. Then a smaller dose, 15 to 20 grains daily, combined with arsenic, increasing to the full dose over the relapsing period on the ninth, tenth, and eleventh days.

In most cases there was, in from four to ten days, a marked reduction of the swelling, but in my own case it has not yet entirely disappeared. In subsequent malarial attacks it has invariably enlarged for a time.

The following cases occurred in No. 84 General Hospital, Dar-es-Salam:

CASE I.

Lieut. J. M. C., aged 30. Temperature 101° on admission. Very scanty subtertian rings present. Slight enlargement of thyroid in an attack six months previously; scarcely any enlargement on admission. Nine or ten attacks of malaria altogether. Enlargement of both lobes occurred on the third day, twenty-four hours after fall of temperature. Dysphagia, dyspnoea, pain, and a fine tremor were all present. Pulse 120. No exophthalmos. Spleen enlarged. The usual quinine treatment was given. On the fifth day ½ c.cm. of adrenalin given subcutaneously. On the sixth there was a definite increase in the thyroid. There was a decrease from that time to the fourteenth day, when, following another slight rise of temperature, the gland again enlarged. When the officer was invalided it had not disappeared.

CASE II.

Pte. P. S., aged 20. Temperature normal, but pyrexia reported by medical officer on day before admission. Many previous attacks of malaria. Both lobes of thyroid enlarged, mainly right. Both benign tertian and subtertian parasites present. Dysphagia, slight dyspnoea, tremor, and some tachycardia. Pulse 103.

CASE III.

Spr. S., aged 20. Temperature 103° on admission. Subtertian parasites present. First attack of malaria. Bilateral enlargement appeared on second day. Slight exophthalmos and tremor present. Pulse 100–110. Spleen enlarged. Marked reduction in ten days, under quinine treatment.

CASE IV.

Capt. J. B. H., aged 25. Temperature 101.6° on admission. Second attack of malaria. Scanty subtertian rings. Pyrexia lasted twenty-four hours; enlargement of both lobes, especially left, occurred twelve hours after fall of temperature and reached its maximum twenty-four hours later. Dysphagia and dyspnoea present; neck painful and tender to touch. No tremor nor exophthalmos. Pulse 110. Spleen slightly enlarged. There was a definite reduction in size in seven days, but the swelling has never entirely disappeared. It increased three months later, following another attack of malaria, and was invariably larger after slight attacks. In July, 1919 (one year from first appearance), enlargement of left lobe was still present, but without symptoms.

The following three cases present rather different features, in that the tachycardia was much more marked and the thyroid enlargement, though of old standing, had in every case first arisen as a sequel to an attack of malaria:

CASE V.

Pte. T. P., aged 33. Eleven previous attacks of malaria. Subtertian parasites. Noticed choking, tight sensation in throat, and dyspnoea in four previous attacks. Bilateral thyroid enlargement present. Marked and persistent tachycardia; pulse about 140. Spleen slightly enlarged. Thyroid decreased under quinine and arsenic treatment. Tachycardia decreased very slowly, in spite of absolute rest in bed, Pulse about 110 when invalided.

CASE VI.

Pte. F. G. A. B., aged 22. Six previous attacks. Admitted with tachycardia. Was in another ward in No. 84 General Hospital with subtertian malaria three weeks previously. Noticed enlargement of neck before readmission, when in Camp

Hospital with malaria. Bilateral enlargement, some discomfort in throat, but no dysphagia or dyspnoea. Pulse 120-130. Spleen not enlarged. Progress as in Case V.

CASE VII.

Cpl. J., aged 24. Two previous attacks. Benign tertian parasites. Constriction in throat and dyspnoea noticed after second attack. Had slight bilateral enlargement of thyroid, accompanied by marked tachycardia—120 and slight tremor.

The frequency of occurrence of marked thyroid enlargement is probably not greater than from 5 to 10 per cent., though the cases with some very slight temporary enlargement immediately after an attack of malaria might probably represent an additional 10 per cent. Since my paper was read, in May, 1918, the condition has been observed by a number of medical officers; and these facts would go to show that the thyroid enlargement is a definite clinical entity, evidencing a marked disturbance of the endocrine system in malaria.

What is, then, the cause? It may be due to sporulation of the parasites in the capillaries of the gland, analogous to the condition in cerebral malaria. This would cut off the supply of iodothyrin from the blood stream, and upset "thyroid equilibrium." To regain this compensatory hypertrophy takes place, and equilibrium is regained in the course of time. The remaining thyroid swelling becomes purely a hyperplasia; or there is a compensatory hypertrophy of the other ductless glands. On the other hand, enlargement of the thyroid may be compensatory for the exhaustion of other parts of the endocrine system.

There is considerable evidence to indicate that the ductless glands are affected by malaria. In the case of the thyroid the tachycardia and tremor would show that the condition is one of hyperthyroidism, but against this is the very rare occurrence of exophthalmos. The observation that sexual infantilism is common in malarious districts is quite definite; the children are often semi-cretins, having large heads, poor physical development, and low mentality, whilst their protuberant abdomens cannot be wholly accounted for by splenic enlargement. Sexual infantilism is known to occur clinically and experimentally in cases of thyroid deficiency. Pigmentation of the skin occurs in Europeans in chronic cases of malaria, but this might be indicative of either thyroid or adrenal disturbance.

Degenerative changes have been described in the adrenals in malaria; and disturbance of these glands may be the cause of the "algid type" of malaria, which, clinically, injections of adrenalin are most valuable in combating. The low blood pressure, and the subnormal temperature, which often lasts for days after an attack, both indicate a condition of hypoadrenia.

Orchitis in malaria, first described by Charvot, is of not infrequent occurrence. Such cases are often admitted as venereal, but, after searching examination has failed to show any evidence of syphilis or gonorrhoea, malarial infection has been discovered. I have observed instances when, with rest in bed, specific malarial treatment and anodynes to the affected parts, the swellings have gone down in from seven to twenty-one days. Often testicular tenderness has been extreme, but without tenderness of the cord. The loss of sexual power so frequently observed after attacks of both treated and untreated malaria is likely also to be due to the effect of the disease on the testes.

These facts have led me to believe that the changes in the ductless glands in malaria may be far more marked than our present knowledge shows, and that physiological and pathological research may show that in these changes lie the explanation of some at least of the conditions that have been referred to.

AN American Memorial Hospital, to be established at Rheims by the American Fund for the French wounded, has been accepted by the French Government. The city gives the site and the Fund proposes to expend £20,000 in erecting a hospital of 100 beds.

THE medical practitioners of Madrid have decided to erect a building for the exhibition of Spanish and foreign mineral waters and pharmaceutical products. There will also be rooms for social gatherings and for meetings of colleges and medical societies. The top stories will be fitted up as a hotel for doctors visiting Madrid. The total cost is estimated at £240,000.

STUDIES ON ACUTE NEPHRITIS.

BY

PROFESSOR KARL PETRÉN.

(From the Internal Clinic of the University of Lund, Sweden.)

To begin with, I will remark that as none of my patients have taken part in the war, there is here not the question of that form of nephritis that we now know as trench nephritis, but only of the old forms long known from experience in peace.

The origin of these studies was that my attention had been aroused by the fact that in recent years the number of cases of acute nephritis treated in my clinic have been great—considerably greater than in general. The number of cases of acute nephritis in the different years that I have been at work at the clinic in Lund is as follows:

1911	15	1916	7
1912	3	1917	15
1913	8	1918	17
1914	7	1919 (to May 31st) ...	4
1915	3		

I must admit that the great number of cases of acute nephritis in the year 1911 had escaped my memory. I must add that the conditions for receiving the patients in my ward have, during these years, not altered; and even if, in general, our means of receiving the patients which were seeking treatment have been different at different times, we have always made room in the ward for patients suffering from acute nephritis. In consequence we must conclude that the number of cases of acute nephritis in the population from which the patients of this clinic are recruited has been very different in the different years which are here taken into consideration. Further, I may add that, as far as we know, in none of these cases was the nephritis caused by scarlet fever.

When we take the different facts here mentioned into consideration, we must raise the question whether the number of cases of acute nephritis occurring in a certain part of this country is influenced by what was formerly called the genius epidemicus. It seems to me that my experience gives good grounds for such a possibility quite apart from the influence of living in the trenches, but of course I do not mean that this experience suffices to give a clear answer to the question.

Since I began to revise the experience from my clinic of acute nephritis I have made a closer study of the cases of the later years, and have chosen for this purpose the cases of acute nephritis observed in my clinic during the years 1917 to May 31st, 1919.

Analysis of the Symptoms.

In recent years many authors in different countries have accepted the suggestion which has been formulated, especially by German authors (Friedrich Müller, Volhard and Fahr), that one can divide the cases of acute nephritis—I leave out of consideration the whole question of chronic nephritis—into different forms of disease: on the one hand acute glomerulo-nephritis (consisting in inflammatory changes of glomeruli), and on the other hand "nephrosis" (consisting in purely degenerative changes of the tubuli). According to these modern views the clinical characters which are most important for the diagnosis between these two different diseases would be the following: for acute glomerulo-nephritis the occurrence of red blood corpuscles in the urine, a rise in blood pressure, but no oedema; for acute nephrosis, on the other hand, the occurrence of oedema but not of red blood corpuscles in the urine and no hypertonia.

I limit my reference to these ideas, now so often accepted, to these few words, and will here only give the results of the examination of my cases on those points where these results have some interest for forming a judgement on the above mentioned ideas.

All the cases of acute nephritis observed during the period 1917 to May 31st, 1919, are here taken into consideration; their number was 36. Among them were only 6 that did not show oedema and only 7 where red blood corpuscles were not found in the urine. As no case occurred in both these groups, we come to the result that 23 of the 36 cases have shown both oedema and red blood corpuscles in the urine. In consequence, the greater part

of my cases did not correspond to the division of acute nephritis in the two different forms mentioned above as the prevailing classification.

The general opinion in recent times is that the infections of the tonsils play a special rôle in causing glomerular nephritis. Among my cases an infection of the tonsils occurred in 17 cases, at some time before the beginning of the symptoms of nephritis.

Among 16 cases* with infection of the tonsils in the history we have found hypertonia in 10 (62.5 per cent.), and among 19 cases without such infection in their history hypertonia was found in 9 (only 47 per cent.). In consequence, that result did to a certain degree correspond to the idea of the infection of the tonsils causing the acute glomerulo-nephritis. But when we go on to examine the occurrence of the other symptoms mentioned above, oedema and red blood corpuscles in the urine, we come to the following result.

Among 17 cases with infection of the tonsils in their history oedema is mentioned in 16 (94 per cent.), but of 19 cases without such infection in their history oedema was mentioned only in 14 cases (74 per cent.). Moreover, of the 17 cases with the above-mentioned infection in their history red blood corpuscles were found in the urine in 13 (76 per cent.), but among the other 19 cases red blood corpuscles were found in 16 (84 per cent.).

If we compare the occurrence of hypertonia and the other symptoms here mentioned we come to the following result: Of 19 cases with hypertonia 13 have shown red blood corpuscles in the urine (68 per cent.), but of 16 cases without rise of blood pressure we have found red blood corpuscles in 15 (94 per cent.); and further among the cases of hypertonia oedema was mentioned in 17 (88 per cent.), but of the cases without hypertonia oedema was mentioned only in 12 (75 per cent.).

The conception of the above-cited German authors was that one form of acute disease of the kidney (glomerulo-nephritis) is characterized by hypertonia, with red blood corpuscles in the urine but with no oedema, and the other form (the acute nephrosis) by oedema but without rise of blood pressure and without red blood corpuscles in the urine. It is evident that *the results of the examination of my cases given above very distinctly speaks against the conception of the two different forms of acute nephritis above mentioned.*

Volhard and Fahr admit that beside the pure cases of acute glomerulo-nephritis and acute nephrosis there exist a certain number of cases that are to be considered as mixed forms. Though having found that the great majority of cases show both oedema and red blood corpuscles in the urine, this fact could still be explained if we assumed that the majority of the cases of acute nephritis (in the old sense of the word) constitute such mixed forms. But, on the other hand, the results of the comparison of the occurrence of the three symptoms here examined (oedema, hypertonia, red blood corpuscles in the urine) cannot be put in harmony with the conception of the German authors just given.

Certainly the researches of these authors on the pathology of nephritis and on the different types that can be found on microscopical examination are of very great scientific interest and most valuable. I have nothing to remark against this essential part of their work. But I have always been of the opinion that the time has not yet come to attempt to distinguish definitely between the different forms of acute nephritis (in the old sense of the word); that such a division of the cases could not be grounded on our definite clinical knowledge, but only on the anticipation that certain observations as regards the pathological examination would find their correspondence also in the clinical observations. This anticipation has not yet been confirmed, and I think that my results here published speak against a confirmation of the above-mentioned anticipation from the pathological researches.

From a clinical point of view (in a wide sense of the word) we have only in the experimental observations a clear ground to distinguish different forms of acute nephritis—as we know through the researches of Schlayer pursued during many years, and also through the works of Christian.

*One patient with infection of the tonsils died two days after entering the ward and the blood pressure was never determined.

Analysis of the Prognosis.

The examination of my cases as regards prognosis has given the result that 47 per cent. of the cases of acute nephritis treated in the clinic during the years 1911 to 1914 have attained to be free from albumin; during the years 1915 to 1917 it occurred in 70 per cent. of the cases, but for the period 1918 to May 31st, 1919, we have seen the urine free from albumin in 20 cases (95 per cent.) among 21 (the exception was one patient who died some days after entering the ward).

If we take into consideration only the 36 cases observed in the years 1917 to 1919, we find that of 17 cases with tonsillitis in their history 13 have attained freedom from albumin (76 per cent.) and 9 (53 per cent.) freedom from sediment (that is to say, red blood corpuscles and casts). For the 19 cases without infection of the tonsils in their history the corresponding figures are 16 (84 per cent.) no albumin and 11 (58 per cent.) no sediment. The difference is so small that it evidently can be only accidental.

From another point of view I have made a comparison as regards the prognosis between those cases in which the infection of the tonsils had passed away more than three weeks before the symptoms of nephritis appeared, and those where this time was less than three weeks. This examination has given the result that between the 7 cases where this period was not longer than three weeks the urine had become free from albumin in 6 (86 per cent.), and free from sediment in 4 (59 per cent.); further, that symptoms of uraemic origin (especially headache) had occurred in 6 (86 per cent.) and hypertonia also in 6 (86 per cent.). For the 10 cases where this period was longer than three weeks the corresponding figures are 7 (70 per cent.) free from albumin, 5 (50 per cent.) free from sediment, symptoms of uraemic origin in 6 (60 per cent.), and hypertonia in 4 (40 per cent.) cases.

It seems to me to be to a certain degree probable that this difference is not accidental. The fact that symptoms of uraemic origin and hypertonia have occurred more often in the cases in which only a shorter period had elapsed between the tonsillitis and the beginning of the symptoms of nephritis could be explained on the ground that the occurrence of these symptoms led to the patients having come to the hospital earlier. When we see that a greater majority of these cases have attained freedom from albumin and from a sediment than among the others we must ask if the circumstance that the patients have come at an earlier stage of the disease into the treatment of the clinic has not had as an effect that the prognosis has been better. The above-mentioned figures permit us to raise this question, but at the same time I do not venture to give a definite answer.

The examination of my cases has shown that the prognosis was better when the amount of albumin was small (below 1 per 1,000) than when the amount was greater. I do not find it necessary to give the figures for this fact, which certainly is not unexpected.

If we make a comparison regarding the prognosis between the cases with hypertonia and those without a rise of the blood pressure, we find for the 19 cases of hypertonia 16 (84 per cent.) free from albumin and 9 (47 per cent.) free from sediment. For the 16 cases without hypertonia these figures are 14 free from albumin (87.5 per cent.), and 11 free from sediment (65 per cent.). It seems probable that this difference is not accidental, but that the prognosis is not so good if the nephritis has been complicated with hypertonia. This result was not unexpected *a priori*.

From another point of view I have, however, found that the hypertonia itself has given a good prognosis. This symptom has often been well developed (in 4 cases 155 to 160 mm., and in 6 cases more than 160). One of the patients died, 2 cases were not examined later (the blood pressure in these cases was 135 and 145), in 1 case the blood pressure had gone down from 155 to 135. In all the other 15 cases it was ascertained that the blood pressure had gone down later to a normal value (to 130 or to a yet smaller value). In consequence, it is remarkable that the hypertonia—although it passed away—nevertheless seems to have a certain effect on the prognosis in an unfavourable direction.

Short Remarks on Treatment.

On the treatment I have only little to say. Everyone recognizes that, in addition to keeping the patient in bed,

the diet is the most important matter in the treatment of acute nephritis, and that it must not be too rich in proteins and salt. My demands as regards diet from both these points of view have been stringent. My custom is to give for the first days (ordinarily four or five days) only a combination of cream, milk and water, or only cream and water, and only after the elapse of this time to give also foodstuffs consisting largely of fat and carbohydrate such as bread, butter, porridge, and other oat-foods, later also green vegetables, and at last also eggs in moderate amount. From a psychical point of view I have found it opportune, if the symptoms do not pass away in a short time, to go back again and begin the same cycle—first only cream and milk; later, cereals and butter, etc.

During the whole treatment I try to diminish the amount of salt very greatly (the bread baked without salt, the butter without salt, the porridge and potatoes boiled without salt, etc.). I have followed these rules, even when the patient has not suffered especially from oedema, and even if oedema had never occurred. In the analyses of urine we have indeed sometimes found so small amount of NaCl as 1.1 gram.

I believe that during the years when the cases mentioned in this paper were treated (1911 to 1919) I have gradually come to a more rigorous position relative to my demands for reduction of the amount of proteins and salt in the diet. I have found that the issue of acute nephritis latterly has been better, and I have asked myself if the more rigorous reduction of the diet can have been the cause of the better results in the later cases. I can only raise this question, but do not here venture to give an answer.

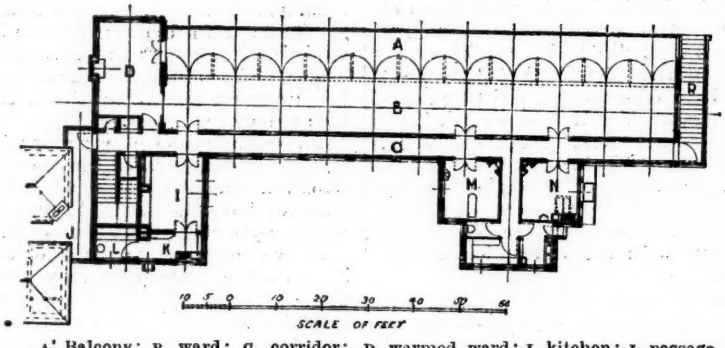
The modern conception of the different forms of nephritis says also that the kidneys in the case of acute nephrosis have only lost their faculty to eliminate the salt but not the urea. In consequence, authors have proposed in cases of acute nephrosis not to reduce the amount of proteins. As is evident from what I have here said, I cannot follow such a rule, because I am of opinion that one cannot by means of clinical researches make the diagnosis that only the tubuli are affected, and, in consequence, prudence commands us to *diminish to the greatest possible degree the demands which we put on the functions of the diseased organs*, here as always in the treatment of diseases of the internal organs.

TREATMENT OF THE TUBERCULOUS CRIPPLE AT THE HOSPITAL FOR CHILDREN, LEASOWE.

By T. HARTLEY MARTIN, M.B., Ch.B.Liverp.,
SENIOR MEDICAL OFFICER.

In view of the criticism advanced by Mr. E. D. Telford (British Medical Journal, October 25th) to the effect that the national scheme for the cure of crippled children, proposed by Sir Robert Jones, F.R.C.S., and Mr. G. R. Girdlestone, F.R.C.S. (British Medical Journal, October 11th), falls short of the best in its provision for the treatment of the tuberculous cripple, it may be of interest to many to know what is being done for these tuberculous cripples at the Hospital for Children, Leasowe, Cheshire.

When in 1912 the interim report of the Departmental Committee on Tuberculosis was published, in which the local authorities were urged to draw up a complete scheme for the extermination of tuberculosis in their areas, the Council of the Liverpool Invalid Children's Association, with the co-operation of Dr. Hope, M.O.H., secured a Treasury grant of £90 a bed towards the cost of erection of a hospital of 200 beds for the treatment of surgical tuberculosis, on a site of 14 acres at Leasowe, on the Wirral peninsula. The remaining funds were raised by voluntary subscription, and the building was commenced in 1913. In July, 1914, 100 beds were available, and the hospital was completed in 1916.



A, Balcony; B, ward; C, corridor; D, warmed ward; I, kitchen; J, passage to administrative; K, pantry; L, linen; M, bathroom; N, dressing room; E, emergency stairs.

In choosing a site for a hospital of this nature the climatic requirements of the diseases to be treated had to be borne in mind. Dr. Jaques Calvé of Berck-sur-Mer, in his pamphlet on the importance of maritime hospitals in the treatment of surgical tuberculosis, states that cases of surgical tuberculosis need an open, barren, flat shore, exposed to the full force of the winds, with a fresh and equable temperature, moderate humidity, and abundant sunshine, where the tonic and equable action of a sea climate is exerted to the full.

The hospital at Leasowe, built within 300 yards of the sea and fully exposed to the winds which sweep from the Irish Sea across an extensive tidal area, is ideally placed to meet the climatic requirements.

The hospital is built on the block-pavilion principle, each block consisting of two stories, with twenty-four or thirty beds on each floor. The wards face due south, and are light and airy, with excellent cross-ventilation. On the southern aspect they are provided with large glass folding doors which open on to roomy sun-balconies. On these balconies the beds are placed in all except the severest of weathers; thus the children enjoy every available hour of sunshine.

Before being admitted to the wards the children are kept under observation for three weeks in single-bedded cubicles, constructed on similar lines to the wards. This serves a threefold purpose: first, by using the folding doors a gradual acclimatization is secured; secondly, the risk of the introduction of infection is minimized; thirdly, the possibility of superadded pulmonary infection can be investigated. In the wards the majority of the children rapidly become accustomed to the open-air life, and although, as a glance at the section plan will show, the wards cannot be heated, they do not appear to feel the cold, and make light of what is often a hardship to the nursing staff.

There is, however, a type of case which requires extra warmth in the winter. Calvé describes them as the nervous, excitable, irritable, and febrile types; for these special accommodation is provided in the warmed ward (D on plan).

The most marked results of the open-air life are shown during the first months of stay in hospital; on admission, pale, irritable, and restless, with a poor appetite, they soon become rosy-cheeked and contented, the appetite improves rapidly when, under carefully selected local treatment, pain and discomfort have been relieved.

Heliotherapy is described by Calvé as an integral part of a marine climate, and is recognized to be one of the more important principles of open-air treatment. Exposure to the sun is practised whenever possible at Leasowe. Even in winter on sunny days local exposure of the diseased part is practised, but from April to October more radical measures are undertaken, the aim being to expose the whole body to the action of the sun's rays. From May onwards on sunny days nearly all the children can be seen naked in the sun save for their bathing slips. The results of this exposure are encouraging; the health of the children improves with the spread of pigmentation as the parts are successively exposed; locally the discharge from sinuses becomes less offensive and the granulations more healthy as the surrounding infiltration disappears.

The results are most marked in cases of tuberculous glands of the neck, where abscesses and deposits of tuberculous débris often clear up without interference.

On account of the prolonged stay in hospital and the enforced recumbency, a stern but kind discipline has to be maintained to ensure the happiness of the children, and in this the three and a half hours per day school tuition which is given has been of great help. In giving exercise to their minds and an occupation to their hands it proves a powerful aid to cure.

The details and technique of the local treatment are beyond the scope of this paper. It is carried out on conservative lines, and its aims are the preservation and restoration of the diseased parts. All cases of tuberculosis other than pulmonary are admitted, the majority being those with bony, articular, or glandular foci. With the exception of peritoneal cases no experience of visceral lesions has been gained.

Eighty per cent. of the cases admitted are discharged under the heading of "Disease arrested," but the degree of cure of necessity varies with the type of case. In the bony and articular types the convalescent stage of the treatment is prolonged as long as possible in order that the disability may be overcome. In cases where the deformities are severe corrective operations are performed.

It must be recorded that the type of case admitted has improved during the five years that the hospital has been opened, and that cases with marked deformity and long-standing sinus formation are not so common as formerly. The result of this is that the average duration of stay has been shortened, and the degree of cure has improved. With the spread of knowledge of surgical tuberculosis a still further improvement is hoped for.

The following statistics are deduced from the cases discharged during 1918:

Discharged, disease having been arrested—					
Tuberculous spine	...	Average stay,	617	days	... 19
Tuberculous hip	...	,, ,,	729	,,	... 25
Tuberculous knee	...	,, ,,	438	,,	... 6
Tuberculous osteitis	...	,, ,,	319	,,	... 22
Tuberculous glands	...	,, ,,	209	,,	... 25
Tuberculous peritonitis		,, ,,	162	,,	... 25
					122
Discharged as improved	...	...	...	...	9
Discharged as incurable	...	...	...	...	9
Discharged with infectious disease (subsequently readmitted)	...	...	...	...	10
Died...	...	...	...	...	17
Total	...	...	...	...	167

It is impossible, however, to draw any conclusion from these figures as to the length of stay in hospital necessary to bring about cure or cicatrization, as many of these cases had been under treatment for some time before admission. The time which must elapse before a diagnosis of incurability can be made is in many cases a long one, and in view of the almost certain prospect of cure in early cases must be regarded as valuable time lost. By discharging all cases as soon as a diagnosis of incurability is made, and by giving preference to all cases of early disease over those which exhibit complications, the greatest good is done to the greatest number.

The hospital at Leasowe is linked to the Liverpool Health Committee's scheme for the extermination of tuberculosis, through the Liverpool Child's Welfare Association, which has access, through the courtesy of the Medical Officer of Health, to all cases of surgical tuberculosis reported, and which, through the channels of its Almoner work in the out patient departments of the Liverpool hospitals, is in possession of valuable information about the home conditions of these children.

From the offices of this association in Liverpool the cases are selected according to urgency, priority being given to cases of early disease. Again, through this executive body, the cases are followed to their homes after discharge from hospital, and much valuable information is gained by this after-care work and supervision, in confirming the diagnosis of cure and in watching the progress of these cases in after-life.

Although 80 per cent. of the beds at Leasowe are allocated to the Liverpool Health Authority, beds have been allotted by the council of the hospital to other health authorities, and thus the hospital serves a wider field.

An additional twelve acres of land has been acquired adjoining the hospital, thus providing for future extension.

Mr. Telford in his letter pleads for the erection of large hospitals, such as that at Berck-sur-Mer, in the best climatic situations we have, and proves, to his own satisfaction, that these cases do not do well during the winter months in the neighbourhood of Manchester. It would therefore appear to be advisable that a concentration of the national effort against surgical tuberculosis be made and larger hospitals be built in those areas where it has been proved that these cases do well.

SUPERIMPOSITION OF A RETROGRADE UPON A DIRECT INTUSSUSCEPTION.

BY

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The following example of a rare form of intussusception still seems worthy of record, even though its presentation for publication has been unavoidably delayed:

In November, 1914, I was asked to see in consultation a male child aged 2 years. The mother stated the child had been ailing for five or six weeks. During the earlier part of this period he had been fretful and sickly, with occasional vomiting and diarrhoea; latterly, and especially for the last twenty-four hours, he had been unable to retain any food. She added that he had passed faeces recently, and that no blood or slime had ever been seen in his stools.

The child was very emaciated and the muscles were so weak that his head fell helplessly backwards or forwards, to the right or to the left, as gravity dictated, according to the position in which he was carried. The abdomen was very distended; the child did not vomit while under my observation. He was obviously in an exhausted state and allowed abdominal palpation without much resistance and without appearing to suffer much pain. The temperature was 97° F. and the pulse 140.

Abdominal palpation revealed what appeared to be an isolated, firm rounded mass in the left upper quadrant of the abdomen, and a soft, less well defined mass in the lower abdomen, mainly in the left lower quadrant, but also to a less extent palpable in the right lower quadrant. (Fig. 1.) This soft mass could be more definitely detected by bimanual examination, one finger in the rectum and the other hand on the abdominal wall. The rectum itself, as far as the forefinger could reach, was empty.

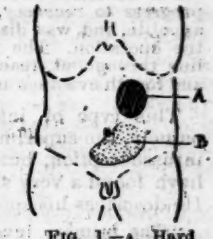

Fig. 1.—A, Hard rounded tumour. B, Soft indefinite tumour.

I was unwilling to make a dogmatic diagnosis in my own mind as to the cause of the obstruction, looking upon the length of history as being against a diagnosis of intussusception, as was also the absence of blood in the stools, and being inclined to regard the apparently isolated, firm rounded mass as being an enlargement of mesenteric lymphatic glands. The child was admitted to the Manchester Royal Infirmary and I operated as soon as possible after admission.

Operation.

An incision was made through the left rectus muscle. The first piece of viscus which presented in the wound was a Meckel's diverticulum about 2½ in. long, quite free and unattached at its distal extremity, blown out like a glove finger, and obviously having no causative connexion with the intestinal obstruction. The small intestine was much distended. Further examination showed that the trouble was an intu-intussusception of a very peculiar type (Figs. 2 and 3). The total length of the intussusception *en masse* before reduction was, as nearly as I can estimate it, between 10 and 12 in. long. The proximal 3 in. of the mass was firm and distally limited by a cuff-like edge from the remainder of the intussusception. It was this portion which could be so distinctly felt in the left upper abdominal quadrant by palpation. The distal 7 to 9 in. of the intussusception represented the soft swelling which could be felt in the lower abdomen.

It was at once evident that there was a retrograde intussusception superimposed upon the proximal 3 in. of a direct intussusception 10 to 12 in. long. The retrograde cuff gripped the proximal portion of the direct intussusception so tightly that it was apparent that before the latter could be "milked" back the former would have to be reduced. This was no easy matter. The "milking" manœuvre was useless in order to effect the reduction of the retrograde portion, and reduction was effected by squeezing the forefinger between the free edge of the retrograde cuff and the ensheathing layer of the direct intussusception, and exerting a gentle and carefully graduated "shoehorn" lever manœuvre. By this means the retrograde cuff, which was tightly gripping the main direct intussusception, was successfully reduced, and as soon as this had been effected the direct intussusception was "milked" back with ease.

There was very little oedema of or haemorrhage into the submucous connective tissue layer at the apex of the direct intussusception, and only very weak fibrinous exudate between the apposed peritoneal coats of the entering and returning layers of the intussusceptum. From a marked dimple present after reduction at the caput caecum it appeared probable that the direct intussusception had commenced as a caeco-colic

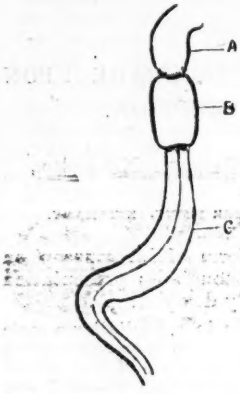

FIG. 2.—A, Small intestine. B, Tight cuff of retrograde intussusception. C, Direct intussusception.

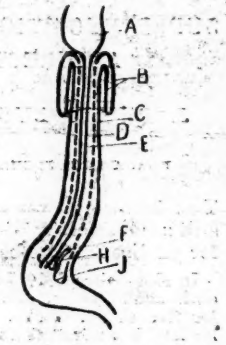

FIG. 3.—A, Dilated small intestine. B, Retrograde intussusception. C, Intussuscipiens of direct intussusception. D, Returning layer of direct intussusception. E, Entering layer of direct intussusception. F, Appendix. H, Ileo-caecal valve. J, Caput caecum.

intussusception. There was no gangrene of the bowel. The caecum, ascending, transverse, and descending colon had a well marked, broad, and continuous mesentery, so that after reduction it was possible to place, without undue tension, the caecum in any part of the abdominal cavity. Time being valuable, no attempt was made to fix the caecum to prevent recurrence. The wound was closed by two layers of continuous catgut sutures and a layer of interrupted silkworm-gut sutures.

The reaction of the child was wonderful; he made rapid progress to recovery, almost at once displaying a voracious appetite, and was discharged from hospital fifteen days after the operation. The temperature kept alongside the normal line throughout, reaching its maximum (99° F.) on the third and fourth evenings after the operation.

This type of intussusception was quite new to me, namely, the superimposition of a retrograde upon a direct intussusception, but as a result of some slight search I have found a very similar case reported by D'Arcy Power.[1] He describes his specimen as follows:

"The primary invagination was ileo-caecal, of the ordinary descending type, the apex of the invagination, consisting of the congested and thickened ileo-caecal valve, with the openings of the ileum and vermiform appendix. The primary invagination was enveloped in a second intussusception passing in the reverse direction, that is to say of the retrograde variety, and this retrograde intussusception was itself complicated by a third intussusception also of the retrograde kind. The primary intussusception and the first retrograde invagination had occurred during life, for their apposed surfaces were glued together with inflammatory exudation. The third invagination was much smaller and was formed after death by a wrinkling of the bowel."

"The direct intussusception in this case measured 3½ in. and the retrograde 2½ in. D'Arcy Power gives a semidiagrammatic drawing of the specimen. He adds: ". . . I believe it to be an example of an intussusception which is by no means uncommon. It is a particularly deadly variety, first, because distension of the colon has no effect upon it, and secondly, because after a laparotomy, any attempt to reduce the intussusception tends to increase the retrograde invagination and so makes matters worse."

Clubbe, in his excellent work *The Diagnosis and Treatment of Intussusception*,[2] very briefly mentions what appears to be a similar case, as follows:

"The intussusception was of the ileo-caecal variety, but the mass, after reaching the descending colon, appeared to form a retrograde movement *en masse* and to be invaginated into the colon higher up the bowel. So, in reduction, pressure first in one direction, then in the opposite was necessary. . . . The child made a rapid recovery.

Before passing on to the consideration of some interesting features of my case, I wish to allude to another case reported by D'Arcy Power.[3] He describes the specimen as follows:

"It consists of a piece of intestine in which there are two intussusceptions, one ascending, the other descending. The first intussusception is at the usual seat—namely, the ileo-caecal valve. . . . In the large intestine, three inches above the end of the intussusception just described, is a second invagination about an inch in length." He mentions two similar cases having been previously reported.

I note that in the description of the former of the two cases reported by D'Arcy Power he refers to the direct portion of the intussusception as being the "primary invagination." This seems to assume that the direct invagination occurred first, and that the retrograde intussusception formed later by a retrograde swallowing of the direct intussusception by the colon. I have spent a good deal of thought on my case, and I am in great doubt whether this is a correct assumption. In my case the retrograde portion of the intussusception gripped the underlying direct intussusception so tightly that it seemed to me a physical impossibility that such a condition of affairs could have been brought about by the retrograde swallowing of a primary intussusception.

In considering this question let us commence by drawing for ourselves a diagram of a simple direct intussusception. The process of a further direct intussusception of the first intussusception *en masse* is a simple matter and easy to understand, but if the primary intussusception is going to be intussusceped *en masse* in a retrograde direction one naturally asks oneself by what portion of the bowel is it going to be swallowed. If the condition seen in Figs. 2 and 3 is to be reproduced, then the primary intussusception must be swallowed by its own ensheathing and returning layers. I have said above—in reference to my own case, and bearing in mind the extreme tightness of the retrograde cuff—that this seems to be physically impossible. If a direct intussusception itself is going to be swallowed again *en masse* in a retrograde direction, a glance at a diagram would make it appear that the natural swallowing agent should be the dilated small intestine above the intussusception; but if this occurred it would *not* reproduce the conditions found in my own case and in the other cases I have quoted.

In reference to Mr. Clubbe's case I wish I had amplification by a diagram of the statement "invaginated into the colon higher up the bowel."

I make the suggestion that it is much more probable that such an intussusception as I have described is formed as follows: A preliminary condition exists of a descending or direct intussusception of the ordinary type, together with an ascending or retrograde intussusception further along the bowel as described by D'Arcy Power in the second case of his to which I have alluded (Fig. 4 A). The apex of the direct intussusception eventually reaches the proximal end of the retrograde intussusception, and the former commences to be swallowed by the latter

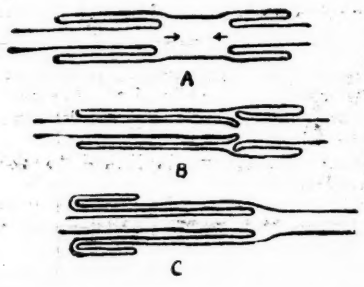

FIG. 4.—A, Direct intussusception approaches retrograde. B, Direct intussusception reaches retrograde. C, Swallowing of direct by retrograde complete.

(Fig. 4 B). This swallowing can go on until the retrograde intussusception forms a tight cuff surrounding the proximal end of the descending intussusception (Fig. 4 C), which would exactly represent the condition which I found in my case.

One has read of, heard of, and seen oneself cases where the direct and the retrograde invaginations are met with apart from one another in the same case. This combination cannot, therefore, be described as very rare. It might, therefore, quite fairly be asked, if my explanation is the correct one, Why is the superimposition of the one upon the other so very rare?—as I believe it is. The natural thing to happen, when the apex of the direct intussusception reaches the retrograde intussusception, is that the direct shall reduce the retrograde intussusception in front of it as it increases in size. When this does not occur, and instead the retrograde swallows the direct, one must

look upon it as an accident, and a rare accident, either due to rather stronger than usual adhesions between the peritoneal coats of the retrograde intussusception or due to a ballooning of the gut at the site of the retrograde intussusception as the direct one approaches it. I have given as my reason for thinking that the condition was produced by a swallowing process of direct by retrograde rather than by a secondary retrograde intussuscepting process of a primary direct invagination that the retrograde cuff was so tight that it was impossible for it to have been formed in this latter way. In my experience, one does not get this condition of extreme tightness in the case of the superimposition of a direct upon a direct intussusception, which condition is definitely recognized as the secondary intussusception of a primary direct intussusception *en masse*.

I have noted that the mother said the child had been ailing for five or six weeks; the greater part of this period no doubt represented a period of acute enteritis, which was the most important causative factor in the development of the intussusception.

In this case one cannot but be struck by the fact that, in spite of the size of the intussusception and the tightness of the cuff at its proximal end, the pathological changes which had taken place were only very slight. One can only attempt to explain this by surmising that the swallowing of the direct intussusception by the retrograde occurred very rapidly and recently, and that the tightness of the retrograde cuff became at once sufficient to completely obstruct both arterial supply and venous return, instead of, as in simple types of intussusceptions, the venous return becoming obliterated before the pressure was sufficient to obstruct arterial flow.

After the operation the child almost at once gave evidence of great hunger; considering that he had not retained much food for some time, this is not to be wondered at, but the fact that he called most loudly for tomatoes was certainly a clue to the cause of the original enteritis.

Regarding differential diagnosis I shall always bear in mind in the future the peculiarity of the tumour to be felt—namely, the upper firm rounded portion, representing the site of the retrograde superimposition, which was quite distinct from the larger, softer, and less defined lower portion, representing the portion which was purely the direct descending intussusception.

REFERENCES.

[1] D'Arcy Power: *Trans. of Path. Soc. of Lond.*, vol. l, 1899, p. 121. [2] Charles P. B. Clubbe: *The Diagnosis and Treatment of Intussusception*, p. 65. [3] D'Arcy Power: *Trans. of Path. Soc. of Lond.*, vol. xxxvii, p. 240.

KALA-AZAR IN MESOPOTAMIA AND ITS INCUBATION PERIOD.

BY

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AN interesting discussion has been taking place in the pages of this JOURNAL as to the indigenous existence of kala-azar in Mesopotamia. It started with Major Low's article on June 7th, 1919, and was continued by Dr. Hamill on July 5th, and by Lieut.-Colonel Ledingham on July 19th. To this last letter Major Low and Captain Billing replied on July 26th. That my contribution is so late is due to my continued presence in the country under discussion.

The most important point in settling the question of the presence of kala-azar in Mesopotamia is the maximum length of the incubation period of that disease.

Major Low and Dr. Hamill both consider the question of the existence of kala-azar in this country settled in the affirmative. Colonel Ledingham expresses doubts on the subject, and I am quite with him in this attitude, although I have met cases of kala-azar here where the interval between the commencement of an unbroken period of residence in Mesopotamia and first evidence of illness is much longer than in Major Low's and Dr. Hamill's cases. In Major Low's case, taking his own reading of the date of onset, the incubation period might be eight months. The patient had been in Bangalore, a place from which I have met other cases of this disease.

Dr. Hamill's case I was acquainted with, and I think I am right in saying that repeated spleen and liver puncture by very competent observers failed to find the Leishman-Donovan body in this patient. Even, however, if the diagnosis of kala-azar were correct there was here also an interval of only eight months between the patient leaving India and the onset of his illness in Mesopotamia. In Colonel Ledingham's first case the interval appears to be the same; in his other cases the dates are uncertain.

I have met with several cases of kala-azar in Mesopotamia, and I have selected from my records of these cases five examples—four Indians and one British—where the interval between leaving India and the onset of the disease in Mesopotamia was more than double that mentioned above.

In each of these cases the diagnosis was confirmed by finding the *Leishmania donovani* in the spleen during life, and the man's movements were confirmed by reference to his service book.

1. *Follower A.* Nearly two years in Mesopotamia before admission to hospital in October, 1917.

2. *Bearer D.* Had been in Mesopotamia for seventeen months continuously previous to the first onset of the fever on August 31st, 1918.

3. *Private G.*, a British soldier. Had been in Mesopotamia (near Baghdad) for seventeen months continuously before onset of the fever on January 8th, 1919. Came to Mesopotamia from Bangalore.

4. *Follower M. M.* Had been in Mesopotamia continuously from September, 1917, up to the date of his admission to hospital for kala-azar on March 2nd, 1919—an interval of just over seventeen months. Came from Noakhale in East Bengal.

5. *Follower G.* Came from Dacca in East Bengal. Left Dacca in March, 1917, arrived in Mesopotamia, April 10th, 1917, and has not left the country since. Arrived in Baghdad in May, 1917, and remained in Northern Mesopotamia. Was in hospital for a month in the autumn of 1918 for some febrile disease (nature unknown), and was discharged as fit. Came to Basra apparently well on April 22nd, and was admitted to hospital for kala-azar on April 30th, 1919. There is here an interval of over two years between arrival in Mesopotamia and admission for the disease.

Long as these intervals are, I do not regard them as conclusive proof of the endemicity of kala-azar in Mesopotamia, though certainly they are weighty evidence. But with equal force it may be held that the disease in these cases was contracted in India and that the many months of health in Mesopotamia are evidence of a long incubation period in some cases of kala-azar. Moreover, each of the Indian cases I have seen in Mesopotamia has come from a known infected area in India.

Previous experience in India has led me to believe that kala-azar is not always the malignant disease we used to think it was, and that, independently of active treatment and independently of the occasional beneficial effects of such dangerous complications as cancrum oris, cure may sometimes spontaneously occur. I think the resemblance to malaria may perhaps go further, and that the parasite may in some cases long remain quiescent in internal organs and only begin to evince its malignant toxicity when some other factor has lowered resistance.

As Colonel Ledingham says, proof of the existence of kala-azar in Mesopotamia must come from its occurrence amongst the native population, and such civil surgeons as I have asked have not seen a case here; neither have I in a limited experience of local Arabs and Persians; nor has any native practitioner that I have met. Dr. Ramy, a Syrian physician of extensive practice, who spent three years in Khaniqin and has practised for many years in Basra, and who is, moreover, familiar with kala-azar from his Syrian experience, tells me that he has never seen a case in Mesopotamia.

With regard to Dr. Hamill's reference to Arab belief in a generalized disease following Baghdad boil no more reliance can be placed on their ideas than on other oriental stories, and no such pilgrimage from Baghdad to Basra for inoculation purposes ever took place. It is true the Arabs call some boils "male," and others "female," but the distinction is fanciful and devoid of scientific support. The only connexion known between Baghdad boil and kala-azar is in the morphological resemblance of their respective parasites, and that is a matter beyond the Arab ken.

In conclusion, therefore, the evidence as to the existence

of kala-azar in Mesopotamia is negative. Perhaps when the Mosul area has been more opened up we may obtain some positive evidence from that direction; but meanwhile the matter must be considered unsettled.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

TREATMENT OF CHILBLAINS.

As chilblains are now prevalent I send prescriptions for applications which I have used for many years, with or without the internal administration of calcium chloride, according to the state of the patient.

For Unbroken Chilblains.

℞ Tinct. capsici ... ... ℥ ss
Lin. camph. co. ... ... ℥ ss
Misce.

To be painted frequently over the affected area.

For Broken Chilblains.

℞ Ung. resinae ... ... ℥ ss
Ung. acidi carbolici ... ... ℥ ss
Zinci oxidi ... ... ℥ ij
Vaselini ... ... ad ℥ ij
Misce. Ft. ung.

London, W. T. MARK HOVELL.

SEVERE ANAPHYLAXIS: RECOVERY.

THE fatal case of anaphylaxis after diphtheria antitoxin recorded in the BRITISH MEDICAL JOURNAL of November 8th (page 596) prompts me to record an equally severe case with recovery.

The patient was a man suffering from compound fracture of the tibia. He had the usual doses of antitetanic serum, and had been rendered sensitive to horse serum. When seen by me on August 23rd, 1919, he was suffering from erysipelas spreading from the wound and spreading bronchopneumonia. His condition was critical, and it was decided to give him 30 c.cm. of polyvalent antistreptococcal serum intravenously. This was diluted in saline, but the mistake made was that no effort was made to desensitize the patient before administration. Within a minute after the injection he complained that he was choking, grasped his larynx, and breathed jerkily and spasmodically. He became cyanosed at once, his lips, cheeks, and neck almost assuming a black colour, and the pulse was flickering; breathing ceased in full inspiration.

The foot of the bed was raised immediately, and artificial respiration commenced by forcibly pressing in the lower ribs, whilst the mouth was cleared of much mucus by the nurse. I decided to try and relieve the spasm by making him take in any air which could be got in through a chloroform mask. A nurse held the mask, fairly well saturated with chloroform, over his mouth and nose whilst I continued to try and force in his chest, thereby getting a little air in with a mixture of chloroform. At the same time he was given 30 minims of adrenalin solution and atropine gr. $\frac{1}{100}$ subcutaneously. Very soon chloroform began to have its effect, for in about five minutes the patient breathed, and when fully under the anaesthetic breathed normally. The cyanosis disappeared and the pulse returned; when counted it was 150 to the minute and of very low tension.

About one hour later the patient was comparatively well, and the next morning the desired effect from the serum was manifest; the general condition was much improved, and the temperature and pulse only a little above normal. He eventually made an excellent recovery.

The decision to try chloroform in a man who was apparently dying seemed a bold one, but when it is remembered that death occurs from anaphylaxis with the chest in full inspiration, and that the condition appears to be a spasm of muscle fibres in the fine bronchi, there seemed only one thing to be done, and that was to try and relieve the spasm by an anaesthetic. It should also be remembered that it is not possible to produce anaphylaxis in an animal while it is under the influence of ether.

The death recorded on November 8th was after the administration of diphtheria antitoxin given as a prophylactic. Is this advisable? (1) May not this first dose render the child sensitive to horse serum, and risk a catastrophe should it require a horse serum at any future date? (2) Diphtheria antitoxin is antitoxic, and not antimicrobic.

Colchester. WM. T. MUNRO, M.D., D.P.H.

Reports of Societies.

WAR LESSONS IN SPINAL SURGERY.

AT a meeting of the Section of Neurology of the Royal Society of Medicine, held on November 13th, the president, Dr. W. ALDREN TURNER, being in the chair, Mr. PERCY SARGENT read a paper on some lessons of the war applied to spinal surgery.

In some respects, he said, gunshot injuries of the spine differed from those usually met with in civil practice. The primary outstanding difference was that of wound infection. The gunshot wound was invariably compound whilst the fracture-dislocation was not. The majority of wounds in which the cord was directly or indirectly implicated did not lend themselves to early radical incision. Whether or not a patient with a gunshot injury of the spine died of meningitis depended almost wholly upon whether or not the dura mater had been torn, and in no circumstances was it justifiable to open the intact theca in the presence of a septic wound in order to ascertain the state of its contents. It became evident in the earliest days that the escape of cerebro-spinal fluid almost certainly meant death from meningitis unless the leak could be stopped, and this, in an otherwise favourable case, he always regarded as one of the few definite indications for early operation. In many cases the theca had been punctured by a fragment of bone which, remaining *in situ*, plugged the hole which it had made, and prevented both the escape of cerebro-spinal fluid and the ingress of micro-organisms. An operation which uncorked the theca in the presence of a septic wound enormously decreased the chances of recovery. Mild infections of the spinal membranes from which the patient recovered might produce intrathecal adhesions such as gave rise later to that loculation of cerebro spinal fluid which so closely resembled the meningitis circumscripta serosa described by Horsley.

The second outstanding difference concerned the manner in which the cord was damaged. Most of the injuries of civil life were produced either by the massive displacement of one part of the vertebral column upon another, or by a crushing fracture of the vertebral bodies, whereby part of the comminuted bone was squeezed backwards so as to contuse and compress the cord. Momentary displacements of the two vertebrae upon one another, with immediate rebound, might also injure the cord. In any case the damage was most commonly produced by direct violence, and the result might vary from a slight contusion up to a complete shearing across of the cord. The cases of gunshot injury comparable with these were those in which a spent bullet or shrapnel ball, impinging upon some part of the spine, entered the vertebral canal, driving fragments of bone before it. But when a missile of high velocity struck some part of a vertebra without entering, or directly violating the contents of, the vertebral canal, effects were commonly produced which were less often seen in the spinal injuries of civil life. The resulting changes in the cord were usually described as concussion phenomena, and the lesions varied from transient oedema up to total disintegration of the cord at the point of maximum intensity. Momentary or very short-lived loss of function had been observed many times, not only from actual hits, but also as the result of the bursting of a high explosive shell close to the patient.

Morbid Anatomy of Cord Lesions.

After referring to the description of the morbid anatomy and histology of the damaged spinal cord given by Dr. Gordon Holmes in his Goulstonian Lectures (1915), Mr. Sargent said that in the light of these observations the pre-war conception of haematomyelia needed revision. Minute haemorrhages were present in every cord which had been at all severely damaged, and were relatively unimportant, but in fracture-dislocation haemorrhages of any size were very rare. Similarly, whilst a slight extramedullary and extrathecal haemorrhage was commonly met with in recent examples of gunshot wounds, a haemorrhage of sufficient extent to cause symptoms of compression was rarely encountered. On the other hand, a small amount of effused blood within the theca might perhaps give rise later to adhesions and loculation of the cerebro-spinal fluid.

Although the functions of the damaged cord could only be re established to the extent to which the nervous elements had not been actually destroyed, the cord was so "over-wired," as Dr. Henry Head expressed it, that quite a gross amount of destruction was not incompatible with a useful degree of recovery. All that surgery could do was to place the injured cord in the conditions most favourable for recovery by removing, as thoroughly as was practicable, any actual or potential cause of compression.

Conditions Found at an Early Date in Gunshot Injuries.—Cases selected for laminectomy within a few days of the wounding were those which were considered suitable as judged by the following criteria:

(1) Absence of serious concomitant injury, such as haemothorax; (2) leakage of cerebro-spinal fluid from the wound; (3) radiographic evidence of the presence of a missile or fragments of bone within the spinal canal; (4) some evidence, however slight, that the conductivity of the cord was not wholly abolished.

To this list might, perhaps, be added pain, though the necessity for surgical intervention on the ground of pain alone was much rarer than the textbooks would lead one to suppose.

The first twenty-four cases subjected to early operation two to ten days after being wounded could be grouped according to the gross anatomical features which they represented into (1) (nine cases) those with a missile and bony fragments within and narrowing the spinal canal but without laceration of the dura; (2) (six cases) those similar to the foregoing but with leakage of cerebro-spinal fluid; (3) (five cases) those with a missile within the theca, mostly with gross destruction of cord and all with leakage of fluid; (4) (four cases) those in which no evidence of injury could be seen within the spinal canal. In such cases the injury to the cord, whatever its degree, presented a pure concussion effect. Of these 24, 16 were followed for periods of from twelve months to four years. Only 8 showed any considerable degree of recovery; 2 were *in statu quo*, and 6 were dead. Of the 8 definitely improved, neurologically speaking, only 4 could walk, but in all of them partial or complete voluntary vesical control had been regained. All but one had a piece of metal and bony fragments removed from the spinal canal, whilst in 4 cases cerebro-spinal fluid was leaking from the wound.

Conditions found at a later date in gunshot injuries included dense scar tissue, often with bony fragments embedded in it, adherent to the cord or to the nerves of the cauda equina, the scar perhaps forming a veritable annular stricture; definite cystic loculation of cerebro-spinal fluid; a pale and shrunken cord or intramedullary cyst; partial or complete division of the spinal cord, and fragments of bone and even metal embedded in it.

Conditions Found at Early Operation in Fracture-Dislocation.—Within twenty-four hours of the accident the unruptured theca was tightly stretched over an anterior bony prominence, and devoid of pulsation below that point. In all cases the salience of the bony projection was reduced by traction upon the spine and manipulation, whilst the theca and its contents were carefully protected from further injury. After a short time such reduction was no longer possible, and the salient ridge would have to be chiselled away, or two or three laminal arches both above and below the site of the dislocation could be removed, as this tended to straighten out the theca.

Conditions Found at Late Operations in Fracture-Dislocation.—In addition to the above, the lumen of the spinal canal might be still further encroached upon by callus, scarring of the membranes might constrict the cord or cauda equina, and meningitis circumscripta serosa was commonly present. In one case, four months after the accident, a pale, soft, swollen cord was found pressed against the dura mater by a definite cystic collection of cerebro-spinal fluid situated in front of it.

The conclusion to be drawn was that some of the extra-medullary causes which militated against recovery could be eliminated or at least minimized by early operation, and that at a later date conditions might exist which retarded recovery, but which were capable of being removed by operation. Early exploratory operation should, perhaps, be more often undertaken in cases where there was no septic wound to contraindicate it. The experiences of the war had shown that there was no sign or group of signs by which a complete lesion could be diagnosed with precision in its earliest stages. The early appearance of a defence reflex from the soles and the presence of an extensor reflex in the great toe might be taken as favourable indications. He advocated exploratory laminectomy, so as to secure a full and complete exposure of the spinal contents for some distance above and below as well as at the site of injury; in the hands of those familiar with the operation he considered the risks to be small and the dangers to have been exaggerated.

Cystitis and Bedsores.

No amount of care would either wholly prevent or cure cystitis in the absence of return of vesical function. If neither voluntary nor reflex function could be restored, the patient would sooner or later inevitably succumb to pyelonephritis. Until vesical function returned every precaution must be taken against infection, and over-distension of the bladder ought to be avoided. Over-distension probably played a part in allowing kidney infection, and recovery of function was delayed in the atonic bladder which resulted from overdistension. Head and Riddoch emphasized the fact that toxaemia inhibited the reflex activity of the spinal cord. Absorption through the wall of any pus-containing cavity was accelerated when the contents were under pressure, and in this way also overdistension of the bladder would retard recovery. Once the activity of the vesical reflex arc had begun (according to Head and Riddoch, about the third week after the spinal injury) the automatic action of the bladder could be established by methods which these authors had described in detail. The amount of fluid constituting the adequate stimulus for detrusor action is determined for each individual case; twice a day this quantity is poured into the bladder until the reflex is evoked. The evacuation can be facilitated by such means as deep breathing, hypogastric pressure, and by any cutaneous or other stimulus capable of evoking a flexor spasm of the legs. The re-education of the bladder was, he said, one of the most important of all the lessons learnt from the study of gunshot wounds of the spine, and should prove of inestimable value in the treatment of those cases of spinal injury which were met with in civil practice, as well as in the management of many cases of paraplegia resulting from diseases of the cord.

The work of Head and Riddoch had emphasized the importance of bedsores and shown their real significance. If the bedsore killed, it did so most frequently by way of the kidneys for it formed a link in a fatal sequence of events—namely, bedsore, toxaemia, depression of spinal activity, cystitis, and pyelonephritis. Besides, healing depended largely upon the recovery of the reflex functions of the cord, which were inhibited by the action of circulating toxin absorbed from the bedsore. It was during the period of spinal shock that the skin was most vulnerable, and it was therefore in the earliest stages that the greatest precautions should be taken.

The Paralysed Limbs.

The spinal injuries of the war had provided ample material for determining the signs whereby complete and incomplete lesions of the cord might be distinguished from one another.* From the purely practical point of view it was important to be able to ascertain not merely whether any minimal conduction persisted through the damaged segments, but whether enough useful cord remained undestroyed to allow of a useful degree of recovery in the limbs. Many paretic patients who could produce quite good voluntary contractions of the muscles were totally unable to put the legs to their primary and fundamental use as organs of locomotion.

When any considerable degree of recovery had taken place in an injured cord the usefulness of the legs might be impaired, not only to the extent to which sensory and motor paths had been permanently cut, but by other causes as well. The accessory causes which in varying degree contributed to the disability, and which were largely remediable, were:

(1) Inability to make proper and co-ordinated use of the recovered neuro-muscular mechanism, a power which could be restored by properly directed methods of re-education.

(2) Hysteria. The fact of getting a paraplegic patient out of bed and into a chair might have a strong psychical effect; the gradual systematic re-education of movements which had long been lost interested and encouraged him, and every stage brought about by these and other means was a powerful stimulus to further effort. The swimming-bath had been of

*See Riddoch's paper in *Brain*, vol. xl.

incalculable value. Patients who, on dry land, could perhaps just stand with support, but who could make no movement of progression, were sometimes able to walk almost unaided in the bath at their very first attempt.

(3) Deformities. A third cause of disablement in a recovering case was furnished by deformities due to neglect. Deformities should never be allowed to develop, but when established their correction by ordinary orthopaedic measures constituted an essential preliminary step in treatment.

(4) Spasticity. Spasticity should be regarded from two aspects—first, as it affected those with total transverse lesions, or with lesions so severe as to preclude any possibility of recovery of function in the lower limbs; and secondly, in those who possessed, or were on the way to regain, what would otherwise be a useful degree of voluntary power. Spasticity not only concealed and rendered useless any voluntary power that might exist, but the spasms were often so disturbing to the patient as to tell seriously on his health. Further, the constant friction against the bedclothes damaged the skin and caused bedsores, particularly in those cases where the cord lesion was so situated that outbursts of sweating accompanied the flexor spasms, whilst splinting for the prevention of deformities was rendered excessively difficult.

If spasticity were regarded as the manifestation of excessive and uncontrolled reflex action, one might either attack the afferent or the efferent side of the reflex arc; or else deal with the mechanical rather than with the neural aspect. To take the mechanical aspect first, by dividing the attachments of muscles their effective action might be, temporarily at least, abolished or modified; by transplanting the spastic hamstrings into the quadriceps tendon their energy could be utilized for correcting the very deformity which they would otherwise produce. The afferent impulses evoking reflex action might be diminished also, by avoiding rough handling and every other sudden and strong impulse, especially massage and electricity; or some of the posterior nerve roots passing to the affected segments might be divided by the operation suggested by Professor Foerster for the spastic diplegia of cerebral origin. Mr. Sargent said that he exposed the conus medullaris and upper part of the cauda equina by removing the neural arches of the last two thoracic and first two lumbar vertebrae, and then divided alternate bundles of the lumbar and sacral posterior roots to the extent of about two-thirds of their total bulk, the actual number divided depending upon the degree of spasticity which it was desired to overcome. In cases of complete division of the cord, or with such a severe lesion as to render any useful degree of recovery impossible, he divided the anterior roots as well. Possibly in such cases, in order to preserve the power of facilitating automatic action of the bladder, it would be better to divide anterior roots alone. A useful minor operation for the temporary relief of spasticity, when it chiefly affected the adductor muscles, was to expose and crush the obturator nerves. In the hopeless cases these nerves should be divided, so as to produce permanent paralysis.

Mr. A. J. WALTON said there was a marked amount of destruction, even when the bullet had never entered the dura, and which was due to the momentum of the body causing the injury, and not to pressure on the cord. There was no immediate urgency in removing pieces of bone or bullet lying in contact with the cord, as the damage was done at the time of injury.

Dr. HENRY HEAD said there were certain criteria by which it was possible to tell that the cord was not divided. If in three months the patient had definite extensor spasms, if jamming up the sole of the foot caused an extensor response, then the cord was not divided. The first stage which the patient went through was the stage of shock; there were no reflexes, there was no bladder action, and no motor or sensory activity. During the second stage there was return of reflexes and automatic action of the bladder. If in the third stage there was a return of extensor spasms and response to stimuli the cord might be said not to be divided. He pleaded for hope in these cases. In the large majority, if the patients remained in a condition of helplessness for more than two months exploration should be carried out. Signs of extensor spasm and a response to stimuli should be looked for specially and repeatedly. Many patients whom he had seen were regarded as hopelessly paralysed, although they had had extensor spasms and should be got up. If the cord was divided the bladder should be got into condition and the bedsores cured; the patient might then live a very comfortable chair life.

The CHAIRMAN, Sir J. CHARTERS SYMONDS, Mr. DONALD ARMOUR, Dr. G. RIDDOCH, Dr. J. COLLIER, Dr. E. FARQUHAR BUZZARD, and Mr. BLUNDELL BANKHART also took part in the discussion; and Mr. SARGENT briefly replied.

FASCIAL TRANSPLANT.

A CLINICAL meeting of the West London Medico-Chirurgical Society was held in the Society's rooms at the West London Hospital on November 7th, with the President, Mr. HERBERT CHAMBERS, in the chair. Cases were shown by Dr. ARTHUR SAUNDERS of rheumatoid arthritis, with excessive affection of the right knee associated with pyorrhoea, and tabes dorsalis with Charcot joint. Mr. E. LAMING EVANS showed a case illustrating the result of a free fascial transplant replacing the extensor tendons of the wrist. Before operation the patient, an officer wounded by high explosive casing, had complete loss of extending power in the long extensors of the third, fourth, and fifth fingers at the metacarpo-phalangeal joints. Six months after the wound, the proximal ends of the extensor tendons and the distal end of the extensor muscles were exposed, seven inches of intervening scar tissue was excised, and a free fascial transplant, eight inches long, from the left thigh was laid as one piece in the prepared bed, and was sutured by catgut to the muscle belly above and the tendons below. He was afterwards treated by massage, faradism, baths, etc., and education. As a result he now has good independent action of extension of the third, fourth, and fifth metacarpo-phalangeal joints, although no attempt was made to connect the proximal ends of the tendons by separate slips to the muscle belly. Mr. Evans considered that the single transplant minimized adhesions and gave the best chance for subsequent independent action. Mr. O. L. ADDISON showed a case of a woman one year after interscapulo-thoracic amputation (La Conte's method) for sarcoma of the upper end of the humerus. There had been no recurrence. Mr. Addison showed also a woman with chronic ulceration of the tongue. Wassermann's reaction was a partial positive, but two injections of novarsenobillon were given without effect. There were no signs of malignancy, and it was suggested that the ulceration might be tuberculous. Dr. HALLS DALLY showed a case of a boy of 15 with asthma and emphysema in association with generalized adiposis and delayed development, which Dr. ARTHUR SAUNDERS suggested was due to defect of the pituitary gland in association with deficiency of the other internal secretory glands. Dr. BURNFORD showed cases of (1) cyanosis with polycythaemia and congenital heart disease, red corpuscles 11,600,000, haemoglobin 140 per cent.; (2) elephantiasis of unknown cause of both legs in a woman aged 45; and (3) Raynaud's disease in a woman aged 28.

AT the autumn meeting of the South Midland Branch of the British Medical Association, held at Bedford County Hospital, under the presidency of Dr. L. W. REYNOLDS (High Wycombe), a discussion on appendicitis was opened by Mr. W. GIFFORD NASH, F.R.C.S., whose valuable paper was divided into three parts: (1) History of the disease since 1759, when it was first recognized *post mortem*. (2) When to operate. Immediate operation was best when the case was seen early, but if an abscess had formed it might have to be drained and the appendix attended to later. (3) Foreign bodies in appendix. Mr. Nash also recorded three cases in which there had been *B. coli* infection of the urinary system which had subsided after removal of the appendix. Dr. ROSS read notes of three cases of foreign bodies in the gastro-intestinal tract which were successfully operated upon: A buckle and a stone removed from the stomach; an impacted gall stone in the ileum, with acute symptoms; and a brass button in the ileum. Dr. W. C. SHARPIN read notes of three recent surgical cases: (1) A case of a young man who presented all the symptoms of intestinal obstruction, in which no actual obstruction could be found either at the operation or at the subsequent *post-mortem* examination. (2) Dermoid cyst of ovary, of sixteen years' duration. Acute symptoms set in suddenly, and a large cyst was found which had ruptured into the bladder; it contained several teeth and a large plate of bone. (3) Chronic uterine inversion, three months after labour, irreducible per vaginam. Laparotomy was performed, and the inversion was easily reduced after an incision in the anterior wall of the cervix.

Reviews.

A PHYSICIAN IN WAR.

SIR WILMOT HERRINGHAM'S volume *A Physician in France*[1] has one quality which all books, except time tables, for even some dictionaries have it, ought to possess: it is readable. He is always interesting, and often entertaining, whether talking about the causes leading to the war, farming methods on the plain of Flanders, the British medical organization in France, the chalk trout streams of St. Omer, trench fever and the louse, his hostess at Hesdin, or the advance of medicine in the war. It is the talk of a good talker on things he has seen and the opinions he has formed about them—shrewd, humorous talk about enterprises of great pith and moment.

He is conspicuously fair to the R.A.M.C.; he praises its achievements, but is not blind to its defects; he is as candid with its critics as its admirers. We may all agree that to have so reduced typhoid fever in the armies in France that it was a negligible factor in the statistics of disease and death was a very notable achievement. Also we may praise the readiness with which the Army Medical Service provided for the application of modern methods of research to new or unfamiliar infectious diseases; and we may praise, too, the way in which, on the one hand, the advice of specialist officers was accepted, and on the other the promptness with which these officers sought the help of civilian bacteriologists and pathologists. We may even in chastened spirit read the chapter on "The Critics" at home, in which they are described as "ignorant, sometimes amusingly ignorant, of organization," in their "chief complaint" that more medical officers were employed than were needed. A division of roughly 20,000 men had, the author says, on its establishment, counting seven allotted to the clearing station and the staff of a general hospital, seventy-two medical officers, or roughly an officer to every 300 men, not including those employed with motor ambulance convoys and hospital trains. He thinks this proportion not too large, and, while admitting that the staff of the field ambulances might be reduced, holds that the medical officers so saved should be given to the casualty clearing stations.

Sir Wilmot Herringham's opinion must have great weight, for he was consulting physician with the armies in the field from November, 1914, to the end. But it is certain that there were times, rather long times, when many medical officers not with the active armies had very little to do. He would probably retort that the same was true of all officers and men also. He tells us that in a division the proportion of officers to other ranks is 1 to 31.4, and states incidentally that 1 officer was killed to every 16.6 other ranks. Nor will he accept the criticism that in the interest of the wounded the hospitals close behind the front should have been largely increased. He gives two reasons: first, the difficulty of supply—a very real difficulty when food has to compete with ammunition on crowded railways and roads; and secondly, the risk of capture. To these should be added the risk of shelling; a forward hospital (casualty clearing station) within the area habitually or often reached by enemy shells cannot fulfil its functions. There is, we think, no doubt that instances occurred during the later stages of the war when casualty clearing stations were either pushed too far forward or kept on sites from which, owing to the advance of the enemy, they ought earlier to have been withdrawn. "The policy of evacuation is forced," Sir Wilmot says, "on every army, and every army has accordingly adopted it," but, as he recognizes, it must be applied with discretion, after striking a proper balance between military and clinical considerations. This balance was not maintained by some of the senior regular medical officers during the first year or two, owing not to inhumanity but to the lack of clinical experience and the inability to modify the rigid administrative methods in which they had been trained to the larger needs of actual warfare on a large scale. As Sir Wilmot Herringham says, "evacuation was at the beginning of the war an obsession which tended strongly against good treatment." One effect was that men who needed immediate treatment by operation or otherwise were sent on, to the loss of their chance of surviving; another was that medical officers in the forward areas could not know what happened to their patients, and could not revise their methods in the light of experience. Attempts, he says, were made to open up a system of mutual information, but they were so unsuccessful at first that the plan practically fell through. "The official mind had not considered the problem. I once said to the D.M.S. of an army that I thought the want of communication was the chief weakness of the system. He said that he saw no necessity for it; that cases once sent down were out of the charge of the officer at the front, and there was no reason why he should concern himself any further." Improvements were forced on the recalcitrant D.'s and D.D.'s, and A.D.'s, by the civilian element, partly by the spread of a kind of public opinion from an army where the D.M.S. was a wise man, but largely, in the nature of things, by the consultants who moved about freely and were in constant communication both with the men who were doing the work and the persons in authority who were putting obstacles in their way.

In a chapter on "Red Tape" Sir Wilmot speaks with rather uncertain voice. He quotes the opinion of a business expert who said that from what he had seen of army filing he was not so much surprised that it took three months to find a file of papers, as that any were ever found; and he tells a story of the chain of offices through which an application from the C.O. of a field ambulance had to pass before the documents were labelled P.A. (put away). On the other hand, he says that all or nearly all of the innumerable records are justifiable; some being needed for the satisfaction of the patient's friends, some for the administration of the hospital, and others to ensure against waste. He does not, however, speak with any uncertainty about the treatment meted out to medical officers of the Special Reserve and Territorial Force. He observes that the pay given to the civilian, who enrolled in large numbers on the outbreak of war, was considerably larger than that given to those who had spent their time in training themselves. This, he says, created a sense of injustice which will prevent men from joining the Special Reserve if it continues to exist. He points to the shabby treatment meted out to many public-spirited medical men who had in peace taken commissions in the Territorial Force; while they were called up with the rank they then held, colleagues—in many cases their juniors, on whom the War Office had no claim—were induced to join by the offer of higher rank, but the Territorial officer was not promoted. Thus a physician of a large hospital might remain a captain, although other physicians, and even some of the assistant physicians of the same hospital, joined with the rank of major. Another mistake, he says, arose from the general maxim of the R.A.M.C.—that there is no room for special skill in a campaign, and that every medical officer must be considered competent for every kind of duty. In remedying this very serious evil the consultants, he states, were of great service; they knew from the positions of the officers in civil life what their special experience had been. The regular staff did not know.

We began by saying that the book is very readable; we will not spoil the reader's pleasure by attempting to pick out Sir Wilmot Herringham's stories, always apt and well told; most of the illustrations are good. It should be made clear that the book deals only with conditions in France; but those who served there as well as those who stayed at home will find the whole of extraordinary interest, even though they may not be able to agree with all the views expressed.

[1] *A Physician in France.* By Major General Sir Wilmot Herringham, K.C.M.G., C.B. London: Edward Arnold. 1919. (Demy 8vo, pp. viii + 193; illustrated. 35s. net.)

TREATMENT OF FACIAL NEURALGIA.

IN *Facial Neuralgia and its Treatment*[2] Mr. J. HUTCHINSON amplifies and brings up to date his previously published writings on this important subject. He deals methodically with the clinical symptoms and the causes, so far as they are known, of epileptiform neuralgia of the face, and he discusses fully the various methods of treatment which

[2] *Facial Neuralgia and its Treatment.* By J. Hutchinson, F.R.C.S. Second edition. London: Bale, Sons, and Danielsson. 1919. (Demy 8vo, pp. xiii+216; 37 figures. 15s. net.)

have been devised to combat one of the most distressing ailments to which flesh is heir. The author admits that the precise pathology of this condition remains unknown, but states that it is due neither to degenerative changes nor to inflammation. He insists that true tic douloureux does not depend on a dental origin, and that it is not due to a true neuritis. Spontaneous cure, it would appear, does not occur.

As the result of considerable experience he has formed the conclusion that a cure may be anticipated in practically every case which is submitted to gasserectomy. This has been the opinion of others, but the author's main contention is that the ophthalmic root can and should be spared in all cases.

The temporal route is recommended and a detailed account of the operation given. Certainly nothing in surgery appears easier. In view of the very considerable deformity which has resulted from operation by other routes, it cannot be doubted that the author's plan will be followed as long as the Gasserian ganglion is subjected to surgical interference. A warning is given against operation in cases of continuous facial neuralgia.

It may be that Mr. Hutchinson's views on the curative effect on epileptiform neuralgia of injections of alcohol will not find universal support. Many physicians can produce evidence that injections into the nerve divisions at their escape from the skull have resulted in complete cessation of symptoms for at least many years. A patient seen lately had experienced absolute relief for periods of eight years after each of two operations for nerve injection. Mr. Hutchinson points out that the procedure is incorrectly associated with the name of Schlösser.

In the account of the technique of injections no mention is made of the needle with a blunt stilette projecting beyond the needle point, which enables the surgeon, after he has pierced the skin and muscles, to make the passage to the foramina with the minimal risk of haemorrhage. Anaesthesia by the so-called "twilight sleep" is not alluded to.

Two misprints require correction in the next edition. On p. 30, line 14, "sore" should read "rare," and on p. 74, line 14, Figure 13 should read Figure 14. It is suggested that the author may be disposed to delete or modify the expression "surely this is satisfactory enough" in referring to a mortality of under 5 per cent. in a series of nearly 200 cases of his own, and another which were operated on by gasserectomy. A further small criticism is made of the expression "practically absent" on p. 15.

The book shows evidence of a great deal of painstaking work, and is a record of good surgery. It is well illustrated and very clearly written; it will compel the attention of physicians and surgeons alike. We should be glad to see in it a note on Gasserius.

AMOEBAE LIVING IN MAN.

"*Quot homines, tot sententiae.*" Could words more applicable than these be used in dealing with the different descriptions that have been given during the last forty odd years of the amoebae inhabiting the intestine of man?

If anyone is in doubt let him read the book, *The Amoebae Living in Man*, Mr. Clifford Dobell has just published.[3] It is an endeavour to create a reasoned order out of chaos, and a careful study of its pages will convince the reader that the author has succeeded in his laborious and difficult task. To achieve it, however, he has had to be severely critical of past and present work, and he has certainly not spared the many students of the subject, both medical men and zoologists, who have preceded him. He shows clearly that one man above all others—to wit, Schaudinn—was chiefly responsible for much of the confusion and many of the inaccuracies by which the subject has so long been embarrassed. He rightly gives due credit to Walker for his splendid researches, which finally lifted the veil of obscurity and allowed the light to penetrate. Dobell looks on Walker's work as one of the most brilliant contributions ever made to medical zoology, and regards the chief problems connected with the relation of intestinal amoebae to dysentery and other diseases as being finally solved by it. We must not, of course, forget the part that Sellards played in the final experimental proofs on human beings, which allowed these conclusions to be reached.

Turning now to Dobell's own work we find that he proposes to divide the amoebae found inhabiting the intestine of man into four genera:

Genus I. Entamoeba—
Species *E. coli*; *E. histolytica*; *E. ginivalis*.

Genus II (new). Endolimax—
Species *E. nana*.

Genus III (new). Iodamoeba—
Species *I. bütschlii*.

Genus IV (new). Dientamoeba—
Species *D. fragilis*.

This classification is based on the author's own work carried out upon a very large number of clinical cases from the different war areas, collected in different London hospitals, and also upon a critical study of the literature of the whole subject. This analysis of the literature is masterly, and must have involved an enormous amount of work. A careful study of these new genera and species clearly indicates that they are valid in every way; they are certain to pass into the literature of the subject in due course. They have already been accepted practically by all English workers, and Continental workers cannot pass them by. The whole work is a very high class protozoological monograph, and it ought to sound the beginning of a new era for English protozoology in general. Far too long has everyone looked to Germans and Germany for the last words on any protozoological subject. With the appearance of this valuable work all this will, we hope, be changed. *The Amoebae Living in Man* will remain as a classic on the subject of amoebiasis for many a day to come, and the author must be congratulated upon his great effort and the good he has done to English protozoology and medicine alike by its production. The work is well illustrated and has a good bibliography; its moderate price places it within the reach of all.

SIR HERMANN WEBER.

The *Autobiographical Reminiscences*[4] of the late Sir Hermann Weber, written for his family in compliance with oft-repeated requests, have been printed privately for his son, Dr. F. Parkes Weber, who has added annotations and a list of his father's publications—more than eighty in number. The reminiscences afford most attractive reading, not only on account of their matter but because of the frank and simple manner of their presentation. They contain, as is natural in a record meant for his descendants, intimate family and personal history, but in the account of his professional life there is much of absorbing medical interest. These reminiscences, written after 1911, though clearly intended to be continued, stop about 1866, when as it happened he became a naturalized British subject, except that in a separate chapter on "Some (16) Medical Friends" events of quite recent date are incidentally mentioned.

Sir Hermann's life fell into two distinct parts: the first from his birth (1823) in Bavaria to 1851, when he left Germany, and the second from the time when he became resident medical officer at the German Hospital, Dalston, to his death on November 11th, 1918, at the advanced age of 95 years. After two years' work as a resident, during which period he became a member of the well known but long extinct "Medical Society of Observation," and thus came in contact with many future leaders of the profession, he was elected visiting physician to the German Hospital and gave up his intention of returning to Bonn, where a career lay before him. Before presenting himself for the examination for the membership of the Royal College of Physicians he attached himself to Guy's Hospital, and thus came into intimate touch with Addison, Bright, and Gull. Of these now historical figures he gives shrewd character sketches, and compares the forcefulness of Addison with the reticence and hesitancy of Bright, adding that he had reason to believe that much of the credit for the discovery of Bright's disease was due to Addison. This is of special interest, as Addison's public recognition as the describer of the syndrome of suprarenal disease owed something to Sir Samuel Wilks's loyalty.

[3] *The Amoebae Living in Man.* A Zoological Monograph. By Clifford Dobell, M.A., F.R.S. London: John Bale, Sons, and Danielsson, Limited. For the Medical Research Committee. 1919. (Roy. 8vo, pp. vi + 155; 5 plates. 7s. 6d. net.)

[4] *Autobiographical Reminiscences of Sir Hermann Weber.* With annotations and a list of his medical writings by his son, Frederick Parkes Weber. (Printed privately for Dr. F. Parkes Weber.) London: John Bale, Sons and Danielsson. 1919. (Pp. 121; 21 illustrations.)

Sir Hermann does not refer to this, but in a later chapter he says of Wilks: "Great modesty was one of the leading features of his character, and this may have been the cause of his want of success in ordinary practice and in consultation. His pupils not only loved him, but had also complete confidence in him and asked his advice for themselves and their families, but were afraid of consulting him for their patients because he was not decided enough, not at all self-asserting, and not convincing to the ordinary invalid."

Throughout these reminiscences the lovable personality of the author stands forth, and adds to their fascination. The appendix contains a list of his writings between 1848 and 1918, the last, "On the influence of muscular exercise on longevity," appearing in this JOURNAL on March 23rd, 1918. There are twenty-one beautifully executed family portraits, and with a dutiful hand Dr. Parkes Weber has added a number of footnotes with b ographical details.

THE INTER-ALLIED RED CROSS CONFERENCE.

DURING the first eleven days of April, 1919, as recorded in our columns at the time, a medical conference was held at Cannes at the invitation of the Committee of Red Cross Societies. The *Proceedings* of the conference have now been published in book form by the League of Red Cross Societies at its headquarters, 2, Rue du Cloitre, Geneva. Professor Roux presided over the conference, which met daily in the Circle Nautique, and delegates attended from France, Great Britain, Italy, Japan, and the United States. The British delegates were: Colonel Lyle Cummins, A.M.S., Brevet Colonel L. W. Harrison, R.A.M.C., Dr. E. C. Hort, Professor Henry Kenwood, Dr. F. Truby King, Sir John Lumsden, Dr. F. N. Kay Menzies, Sir Arthur Newsholme, Sir Robert Philip, and Sir Ronald Ross.

The opening meeting was addressed by Mr. H. P. Davison, chairman of the Committee of Red Cross Societies, who detailed the circumstances which led to the formation of the Committee and the work it was hoped the conference would complete. Prof s or Roux, in his introductory address, expressed the belief that the utmost co operation of the scientists of the world would be secured for this new movement. Colonel Richard P. Strong, of the American delegation, submitted an outline for the establishment of an International Council and Bureau for Hygiene and Public Health, and his colleague, Dr. Hermann M. Biggs, set out in a memorandum the activities in which the Red Cross might profitably engage. At the close of four days' deliberations the general conference reached the conclusion that it was a natural and most desirable evolution for the Red Cross to extend its functions of relief during the war to that of promoting public health during peace, and this view was concurred in by the delegates from all the nationalities present. During the first week the different sections met daily to prepare reports of the activities which they represented. In the second week the conference considered the recommendations of the sections in the following order: Venereal diseases, child welfare, tuberculosis, malaria, nursing, preventive medicine, publications, education, and statistics. At the final meeting of the general conference on April 10th resolutions containing recommendations from the different sections were adopted. Just before the adjournment a telegram was read reporting the alarming situation in Central Europe by reason of the outbreak and spread of typhus fever; this matter was discussed at a meeting of the executive council next morning as the resu t of which a telegram was sent to the Governments in session at the Peace Conference, urging immediate act on, and a commission was appointed then and there to direct Red Cross activities in the control of the typhus epidemic.

The second and third chapters of the *Proceedings* give the names and qualifications of the delegates and the full text of the resolutions and recommendations of the conference. In the subsequent chapters are recorded at length the proceedings of the ten general sessions. During the first five days the organization of the proposed Central Bureau of Health was the main topic under discussion. The volume is printed in large, clear type, on good paper; it is bound in cloth and illustrated with many full-page portrait groups of the delegates, and a plan suggesting the distribution of the personnel in the Bureau of Hygiene and Public Health.

NOTES ON BOOKS.

THE fourth edition of Professor MORTON'S *Genito-urinary Diseases and Syphilis*,[5] a standard textbook in America, provides the medical practitioner with a comprehensive account of the subject, clearly written and well illustrated. Plenty of space is given to the treatment of the conditions described. The book may be recommended to practitioners in search of a sound and conservative book on venereal disease.

We have received a reprint of the discussion on *Influenza*,[6] held at the Royal Society of Medicine in November, 1918, under the presidency of Sir Humphry Rolleston, K.C.B., and opened by Sir Arthur Newsholme, K.C.B. This valuable symposium of opinion and experience should be studied by all who are interested in the epidemiology and etiology of epidemic influenza.

To write a book on venereal diseases in the small compass of eighty-three pages might tax the resource of any author; for this reason many of the shortcomings of Dr. MYER'S *Lectures on Venereal Diseases*[7] may be excused. The book is intended, as we are informed in the preface, for midwives, nurses, masseurs, and members of the general public who may be specially interested in these diseases. It is illustrated by figures and diagrams, and contains a glossary of the anatomical terms employed in the text.

The second edition of Messrs. MILLS and HUMPHREYS'S *Surgery for Dental Students*[8] should be studied by all intending to become dentists, and also with advantage by all medical students. The authors are to be congratulated on the simplicity of their phraseology and on the classification of the subjects treated in each chapter. Specially should be noted the insistence on a good knowledge of bacteriology, a point much overlooked by students of dentistry. Also the special reference in the article on "oral sepsis" relative to imperfectly fitting crowns and bridges should be noted; it really condemns, and rightly so, 95 per cent. of these septic fixtures. The article on diseases of the eye with reference to affections due to dental origin is specially worthy of attention.

In *The Baby*[9] Dr. SOPHIA SEEKINGS writes a simple account of infant hygiene for the million, with clear directions to mothers showing what they should do and what they should not do in such matters as clothing and feeding infants, and in the general management of their tender lives. The book contains much sensible advice, and may be recommended to laywomen generally.

The second number of *Medical Science* (November) is occupied for the most part with a series of reviews in which notes on recent work are arranged in an orderly manner. There are such reviews on influenza, on diphtheria, on the surgery of the thyroid and thymus glands, on gastric and duodenal ulceration, on the extra-pyramidal symptom-complex, and on other subjects. The periodical is published for the Medical Research Committee by the Oxford University Press. The annual subscription is 21s.; the price of a single number is 2s.

The second edition of Miss GOODALL-COPESTAKE'S *Theory and Practice of Massage*[10] has the same excellences as the first edition, which was reviewed in this JOURNAL last year. It has been revised, and a chapter dealing in outline with the after-treatment of war injuries by massage and movements has been added. It may be recommended to the attention of masseuses and students of massage.

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[5] *Genito-urinary Diseases and Syphilis*. By Henry H. Morton, M.D., F A C.S., Clinical Professor of Genito-urinary Diseases in the Long Island College Hospital, etc. Fourth edition, revised and enlarged. London: Henry Kimpton. 1918. (Med. 8vo, pp. 807; 330 figures, 36 coloured plates. 36s. net.)

[6] London: Longmans, Green and Co. 1919. (Sup. roy. 8vo, pp. 102. 3s. 6d. net.)

[7] *Lectures on Venereal Diseases*. By Leonard Myer, F.R.C.S. London: The Albany Press. 1919. (Med. 8vo, pp. 88. 6s. net.)

[8] *A Textbook of Surgery for Dental Students*. By G. Percival Mills, M.B., B.S.Lond., F.R.C S., and Humphrey Humphreys, M.B., Ch.B., B D.S.Birm., L.D S.Eng. Second edition. London: Edward Arnold, 1919. (Med. 8vo, pp. xii + 340; 57 figures. 14s. net.)

[9] *The Baby*. By Sophia Seekings, M.D., B S., D.P.H. Manuals of Health, II. Edited by E. Barclay Smith, M.D. London: Society for Promoting Christian Knowledge. 1918. (Fcap. 8vo, pp. 63. 9d. net.)

[10] *The Theory and Practice of Massage*. By Beatrice M. Goodall-Copestake. Second edition. London: H. K. Lewis and Co., Ltd. 1919. (Demy 8vo, pp. xxi + 265; 67 figures. 9s. net.)

MEDICAL RESEARCH COMMITTEE.

THE fifth annual report of the Medical Research Committee, dealing with the year 1918–19, was issued on November 18th. It falls into three parts. In the first the constitution and policy of the Committee are discussed; in the second the work of the Central Research Institute and its departments are described; and in the third particulars are given of the various research schemes instituted by the Committee.

CONSTITUTION AND POLICY.

The Ministry of Health Act provided that the duties of the Medical Research Committee should be transferred to a committee of the Privy Council on or before June 3rd next. Since the passing of the Act the duties of the chairman of the National Insurance Joint Committee have been transferred to the Ministry of Health, and the report states that consideration is at present being given to the future constitution of the Committee in its relation to the proposed committee of the Privy Council. It is hoped that the future committee will have opportunities, better in form if not in substance, for co-operation with the great organization for Scientific and Industrial Research, working under an existing Committee of the Privy Council. The relation between the renewed organization of the medical research services in general with the research and intelligence services forming an integral part of the Ministry and Boards of Health must be subject to some definition in general terms, but the Committee is of opinion that the actual boundary line should be allowed to find its natural adjustment in daily practice. The Committee believes that the new committee will provide a mechanism for directing upon any problems larger than those of the usual work of the Ministry of Health the scientific forces appropriate to them throughout the United Kingdom.

During the five years the Medical Research Fund has been in existence its annual average amount has been about £50,000; in the present financial year it may reach £60,000, but the present purchasing value of the Fund is now very little more than one half of its original value as provided by Parliament in 1913. The cost of apparatus and the rate of wages of laboratory attendants have increased enormously, and salaries and research grants have been raised to give a living wage to scientific workers, though the increase to meet a double cost of living has not exceeded the 20 per cent. sanctioned for the Civil Service. The difficulty of doing no more than maintain the work actually in hand has been felt acutely during the past year, when upon the return of peace conditions the Committee sought to give better aid to the existing fruitful work at the chief university centres to which men have been returning. The experience of the last five years has shown that apart from the saving of life and suffering, and apart from its contribution to the general intellectual life, the research work done by the aid of the fund has brought a large and immediate saving in money to the country. Instances are given of such direct saving; one of them is that the research work done upon heart diseases for the Army saved in one year in one Command approximately the whole of the annual value of the Medical Research Fund. While advancing these utilitarian considerations the Committee does not hesitate to affirm that knowledge of the laws of life must be fostered as being inseparable from the advance of higher education. "It is to be sought and promoted for its own sake as an indispensable part of the general intellectual progress of man." The conclusion is obvious. National economy is a necessity of the present financial position, but a larger sum than is at present available could profitably be spent in investigating the causes of disease and disability.

DEPARTMENTS.

Bacteriology and Experimental Pathology.

Sir Almroth Wright, who has been head of this department since August, 1914, has resigned the position in order to resume his work as director of the inoculation department of St. Mary's Hospital, but has accepted a whole-time research grant from the Committee. His investigations, which have special reference to the processes of immunization and their study by new methods under laboratory conditions, are being continued at St. Mary's Hospital. He has been succeeded as head of the department by Dr. S. R. Douglas, late Captain I.M.S., who will be assisted by Dr. Leonard Colebrook, who formerly worked for the Committee in France and at St. Mary's Hospital. Dr. W. E. Gye (formerly Bullock) has been appointed to the staff of the department for experimental pathology; Mr. Clifford Dobell, F.R.S., has joined the staff as protistologist, and has resigned his appointment as assistant professor of protistology and cytology in the Imperial College of Science.

In 1917 a special committee was appointed, under the chairmanship of Dr. J. G. Adami, F.R.S., to consider the possibilities of bringing improvements and greater uniformity into the details of pathological methods used at various centres and of setting qualitative and quantitative standards to which the results obtained at different times and places could be referred. Last June Dr. Adami, on his appointment to be Vice-Chancellor of the University of Liverpool, resigned the chairmanship and was succeeded by Professor F. W. Andrewes, F.R.S. Captain Douglas is secretary of the committee and has given the chief part of his time to its work. He is engaged in studying the possibilities of separating the organisms of cholera into different serological groups. The committee has been chiefly occupied in preparing a report on the best methods for the bacteriological diagnosis of acute infections of the intestines. This has involved a detailed study of the various cultural media, as well as of direct physical chemical tests such as that based upon the agglutinable properties of different groups of bacilli. The report dealing with methods of the agglutination test, in the preparation of which Professor Dreyer has greatly assisted, will shortly be published. A special subcommittee, under the chairmanship of Professor J. W. H. Eyre, has been investigating the physical and biochemical principles underlying cultural technique. At many points its work and that of the parent committee has been linked with the special studies made for the Anaërobes Committee and more generally into the chemistry of bacterial growth conducted in the Biochemical Department of the University of Cambridge under the direction of Professor Hopkins.

Biochemistry and Pharmacology.

Dr. H. H. Dale, F.R.S., who is the senior member of the staff of this department, has continued, in conjunction with Dr. P. P. Laidlaw, Dunn Lecturer in Pathology at Guy's Hospital, the work on the action of histamine; they have completed their analysis of the shock-like condition produced by that substance in large doses. They have brought it into relation with the similar shock-like phenomena caused by various protein derivatives, many of which have been recognized not only in anaphylactic shock, but also in the conditions of circulatory failure more gradually produced after massive trauma (wound shock). The central feature is the loss of the normal tone of the capillary blood vessels and the consequent tendency to peripheral stagnation of the blood. It is believed that the function of the capillary tone in regulating the flow of blood and maintaining a normal circulation has not hitherto received adequate recognition. It is noted that Professor Krogh of Copenhagen has recently been led to similar conclusions by a different line of investigation, dealing with the supply of oxygen to the tissues. The recognition of the influence upon this capillary function of various protein derivatives and products of bacterial action is thought likely to have an important influence on physiological or pathological conceptions. Since the armistice Dr. Dale has completed his part of a joint investigation begun some years ago with Dr. Dakin, with the object of throwing light on the chemical basis of the immunity reaction. An account of the work was given in the Croonian Lecture to the Royal Society, which will be published in the *Biochemical Journal*.

Dr. H. W. Dudley, another member of the staff of the department, has been investigating the chemical nature of the constituents of the posterior (infundibular) lobe of the pituitary body.

Major Kellaway, under Dr. Dale's supervision, has carried out an investigation into the effects on the circulation of exposure to low oxygen pressures, with special reference to the effect on the activity of the suprarenal glands and on the sugar content of the blood. He found that anoxaemia is the important factor in the accelerated

output of adrenalin and the resulting hyperglycaemia which are known as effects of asphyxia. He traced both effects to action on the central nervous system, and the work led to the practical suggestion that the rise in blood sugar produced by exposure for a limited time to a standard low tension of oxygen might be used as a test of fitness for flying at high altitudes.

The work undertaken as an emergency measure for the Board of Trade at the beginning of the war in testing bacteriologically the various preparations of salvarsan and neo-salvarsan of British and French origin has made great calls upon the time of Dr. Dale and his colleagues, and the committee makes mention of the laborious and devoted work of Miss Florence Durham and Mdlle. Marchal, a Belgian subject, who have been responsible for the routine work under Dr. Dale's directions.

Applied Physiology.

Dr. Leonard Hill, F.R.S., the senior member of this department, has been chiefly occupied in continuing his investigations into the science of ventilation and of open-air treatment. His paper on the defence of the respiratory membrane against influenza published in our columns of March last will be remembered. Dr. Benjamin Moore is continuing his study of photo-synthesis, and, as has been already noted in our columns, has found that the so-called active oxygen of fresh country air is not ozone, but nitrogen peroxide, probably formed by ultra-violet light causing direct union of nitrogen and oxygen.

Statistical.

The Committee has come into possession of the Mount Vernon building, Hampstead, used since 1917 as the central hospital for flying officers. The statistical department, of which Dr. John Brownlee is director, has been removed there. The results of his researches into the periodicity of measles and the epidemiology of phthisis have already been noticed in our columns. Another investigation has been made to determine how far the general influence of hygiene can be measured from existing life tables. It was found, as shown by a paper read to the Royal Statistical Society, that close relationships could be established between the laws of physical chemistry and the recorded information given by the tables. The compilation of the medical and surgical statistics of the war for the Army Council has been continued. During the past three years and a half the work has been done in rooms lent by the trustees of the British Museum; it has now been transferred to the building hitherto occupied by the Endell Street Military Hospital, which will afford larger space.

Clinical Research and Experimental Medicine.

The original intention of the Committee was to include a large number of research beds in the scheme of its Central Institute, so that the laboratory work of the several departments could be brought into the closest relation with the clinical workers. This plan has now been abandoned, partly on the score of expense, partly because it was felt to be at present of the first importance that the pursuit of clinical science should be brought into close touch with the great medical schools, so that young and able men, who will certainly be attracted by it, may be trained to be the research workers of the future. The staff consists of Dr. Thomas Lewis, F.R.S., and Dr. T. R. Elliott, F.R.S. Dr. T. F. Cotton has been appointed assistant, and has been engaged as a part-time research worker, and Miss Bain, who had worked previously at the Colchester Military Hospital, has been engaged to follow up the after-histories of patients and maintain the system of records. Dr. Lewis, who was appointed a physician on the permanent staff of the Committee in January, 1916, continued his work at the Colchester Military Hospital for military cases of heart disorder until last spring. The results of his work upon the research side were given in his book on the soldier's heart and the effort syndrome, published last spring, and some practical applications were explained in his lecture on "Cardinal principles in cardiological practice" published in our issue of last week. Dr. Lewis has organized a scheme of research work at University College Hospital, to which he is physician. He has beds for research work and higher teaching, and this clinical work will be in close relation to the cardiographic laboratory in the adjacent University College Medical School. Dr. T. R. Elliott, who is also a physician to University College Hospital, joined the permanent research staff of the Committee on ceasing to be consulting physician with the armies in France.

LIBRARY AND PUBLICATIONS.

The library is being installed at the Mount Vernon building, to which the publications branch has also been removed. We have already explained the reasons which induced the Committee to begin the publication of a monthly periodical—*Medical Science, Abstracts and Reviews*—last October. The report now points out that English workers have in the past been tempted to rely in the main upon the numerous German compilations of abstracts, and that these compilations have not always given either due space or credit to British and American work. The need for an English publication of the kind was recognized, but it was recognized also that it is impossible for its publication to be conducted at a profit. In determining the scope of the new periodical the Committee has, the report states, kept in view the existing periodicals of similar aim and has endeavoured to supplement these without overlapping. It "had in mind from this point of view the admirable epitomes of current medical literature which appear in the medical press, chiefly for the information of medical practitioners," and it has endeavoured not to cover the same ground as that of the *Physiological Abstracts* which the outbreak of war prompted the Physiological Society to produce. The Committee has continued the publication of its Special Reports Series, of which eighteen numbers appeared during the year.

RESEARCH SCHEMES.

The Committee has endeavoured to reconstruct its original research schemes upon the return of many workers from war service, and it was found that many schemes of research first framed directly for war purposes have a wider application. To some of the researches reference has been made above.

Tuberculosis.

A number of investigations into the problem of tuberculosis have been resumed. Inquiries are being conducted at Dublin, Edinburgh, and Glasgow with a view of establishing the incidence of human and bovine types of bacilli respectively, in surgical cases of human tuberculosis, with special reference to the supply of milk. The inquiry by Dr. Stenhouse Williams at Reading into the presence of virulent tubercle bacilli in the dung of cows is being brought to completion. The bacilli have been found alive and virulent in droppings that have lain upon pasture land for five months. It was found also that a notable number of apparently healthy cows excreted tubercle bacilli in the faeces. The Committee has made grants towards the cost of following up the after-histories of patients treated at the sanatoriums at Midhurst, Frimley, and Peamount, Ireland.

Dysentery.

Working in close relation with the War Office Dysentery Committee, efforts have been made to gather up and collate the experience gained during the war. Much has been done with regard to the classification of the different types of dysentery bacilli, a subject of general importance, both military and civil, and likely to be of special value to the Board of Control in coping with outbreaks of dysentery in asylums. The investigation of various problems connected with amoebic dysentery has been continued throughout the year. Mr. Clifford Dobell has incorporated his results in his book, *Amoebae Living in Man*, a review of which is published elsewhere in this issue.

Typhoid and Paratyphoid Infections.

The Standards Laboratory at Oxford, under Professor Dreyer's general direction, has continued to supply the seven varieties of standard agglutinable cultures and agglutinating serums, and has also distributed standard cultures and serums of *B. aertrycke*. Recent researches having shown that the mannite fermenting group of dysentery bacilli was not sufficiently represented by the two types, Flexner and Y, the manufacture of five type-cultures and serums for this group has, in accordance with the recommendations of the War Office Committee, been undertaken.

Wound Infections.

In consequence of the fact that a large proportion of operations on old gunshot injuries of bones are followed, even when the wounds are apparently soundly healed, by a "flare," that is, a rise of body temperature, with or without local inflammation, a systematic inquiry into the bacterial flora of this latent sepsis has been carried out at Woolwich, and a method of intensive immunization devised; the method is carried out for ten days previous to operation. Much success has been attained. In a series of 169 operations in 75 immunized men there were 13 cases of "flare" (17 per cent.), while in the 94 similar control cases there were 54 cases of flare (59 per cent.).

Cerebro-spinal Fever.

Dr. Mervyn Gordon and Dr. T. G. M. Hine have been engaged at the Central Cerebro-spinal Fever Laboratory and Dr. Stanley Griffiths at the Field Laboratories, Cambridge, in the production of antimeningococcus serum. Investigation of a sample of serum proved clinically to possess exceptional potency brought to light the fact that it was distinguished from less successful serum solely by its capacity for neutralizing the endotoxin. Dr. Griffiths prepared a monotypical serum of each type; they were not issued until shown to possess anti-endotoxic power. At present, however, so little is known of anti-endotoxin, the existence of which is denied by some authorities, that the preparation and standardization of serum of the desired quality has involved much arduous work. Monotypical curative serum prepared against each of the four types separately has been tested. Of 34 cases infected by Type 1, showing previously a case mortality ranging between 30 and 60 per cent., all with one exception recovered when treated with the homologous serum. On the other hand, of 32 cases of Type 2, 7 died; 10 cases of Type 3 treated with homologous serum all recovered, and it is noted that several of them had failed to derive any benefit from the pooled serum (Type 1 and Type 2) with which they were first treated. The investigations are being continued, Dr. Hine giving the whole and Dr. Gordon part of his time to the work.

Influenza.

A large number of investigations into the bacteriology of influenza have been carried out at various centres, without at present any very definite results. It is to be noted, however, that Captain Douglas, working in the Committee's bacteriological department at St. Mary's Hospital, found that strains of the Pfeiffer bacillus collected from different sources could not be sorted into a relatively small number of separate groups. Each example isolated and cultivated appeared to elicit an immunity response characteristic of itself, and not shared by other strains. This multiplicity of type, it is considered, may have important bearings on the epidemiology and on the methods of preventive treatment of the disease. Reference is also made to the observations by Dr. A. Gregor on the influence of gaseous disinfectants in the prophylaxis of the disease published in our columns on October 25th, 1919.

Child Life.

A committee has been appointed to assist in making a detailed suggestion for inquiry into the causes of high infantile death rate; the committee consists partly of Scottish and partly of English members, under the general chairmanship of Professor Noël Paton of Glasgow. The Scottish members are Dr. J. W. Ballantyne and Sir Leslie Mackenzie of Edinburgh; Dr. A. K. Chalmers and Dr. Leonard Findlay of Glasgow. The English members are Dr. John Brownlee, Dr. Eardley Holland, and Dr. G. F. Still. Studies of the antenatal factors of the conditions found in dead births and premature births have already been undertaken in Glasgow and London, as have also social studies of the relation between environmental conditions and infant mortality, conducted in association with special clinical researches in children's hospitals.

Nutrition.

At the close of hostilities a memorandum from the Food (War) Committee of the Royal Society was transmitted to the Development Commission, the Medical Research Committee, and the Department for Scientific and Industrial Research, in which the opinion was expressed that the science of nutrition from a national standpoint had been insufficiently studied, and that there was an urgent need for a central institute or organization. A conference between the bodies mentioned was subsequently held to discuss the possibility of establishing a Human Nutrition Research Board, deriving its financial resources from the funds of the three research departments. At this conference a committee was appointed to report upon the exact nature of the work such a board should undertake.

The Medical Research Committee has assisted work at Cambridge and at the Lister Institute with regard to accessory food factors (vitamines). The general position with regard to this subject was explained by Professor Gowland Hopkins in the lecture published in the British Medical Journal of April 26th, 1919. The scheme of inquiry into rickets in Glasgow by Professor Noël Paton is maintained, and some of the results were related in the paper published by Paton, Findlay, and Watson in our columns on December 7th, 1918. In London Dr. Mellanby has made progress with his studies of the accessory factors in food, the absence of which produces a rickety condition, though the energy supply of the food is abundant and growth rapid. His recent researches have included inquiry into the very important question whether the maternal body can supply in the milk the missing factor for the nutrition of the young. Evidence is growing that deficiency of this factor in the maternal diet is reflected in a corresponding deficiency in the milk produced.

THE HUNTERIAN SOCIETY CENTENARY.

PRESENTATION TO DR. JOHN ADAMS.

THE centenary dinner of the Hunterian Society was held at the Trocadero Restaurant on November 12th, when a distinguished company of members and guests assembled, including the Minister of Health, the President of the Royal College of Physicians, and the Astronomer Royal. The distinctive feature of the proceedings was the presentation of a special centenary silver medal to Dr. John Adams, F.R.C.S., for his work on the treatment of ante-natal and post-natal syphilis at the Thavies Inn (London) venereal maternity centre. Dr. LANGDON BROWN, President of the Society, in making the presentation, said that Dr. Adams had carried through this special work with most excellent results, in spite of the manifold preoccupations of a busy practice. His devotion, enthusiasm, and ability were an example and a lesson to them all.

Dr. JOHN ADAMS, after expressing his sense of the honour done him, described how, two and a half years ago, the authorities thought well to establish this special hospital of which he had medical charge. Everything he had asked of them had been granted, and he had worked without let or hindrance. He had also been most fortunate in a hard-working and enthusiastic staff. Official reports had given the mortality of congenital syphilis as 75 per cent. in the first year of life, but at his hospital, where they were dealing with cases in the most acute form, the result in the first year was that only 14 per cent. of the infants died, and in the second year less than 5 per cent. He believed that nearly all the cases of congenital syphilis could be made negative as a result of the treatment followed at Thavies Inn. The hospital was started more or less as an experiment. It contained only 20 beds, but these should be increased to 200 if only it was realized what sort of patients were received, more sinned against than sinning, full of the mother instinct, and most anxious for treatment and attentive to instructions. The hospital might well be made a centre where men could be trained to treat such cases and afterwards carry out in similar clinics elsewhere the things they had learned.

Sir NORMAN MOORE proposed the toast of the evening—that of "The Hunterian Society"—and in doing so added his own testimony to Dr. John Adams, whom he had known for nearly fifty years, and to the excellence of Dr. Adams's work, which he had personally inspected. The speaker then went on to open out some of the treasures of his historical knowledge in portraying the beginnings of the Society in 1819. The national conditions then were very like those of to-day; then, as now, the nation was exhausted after a long struggle, in which success had been given to its arms. The founder of the Society was Sir William Blizard, and the speaker well remembered Sir Richard Owen, who was intimate with Blizard,

describing to him the impression that courtly physician made upon his contemporaries. Blizard had a taste for poetry, and had he been longer contemporary with Pope he would have secured a place in the "Dunciad." Sir Norman Moore then spoke of the famous Hunter family. Matthew Baillie, nephew of John and William Hunter, wrote the first good book in English on morbid anatomy; his walking-stick was preserved at the Royal College of Physicians, and had upon it the arms of Radcliffe, of William III's reign; Mead, of George I and George II; Askew, of the middle of the eighteenth century; and William and David Pitcairn. William Hunter gathered together a remarkable collection of coins and books, which, on his death, was presented to his favourite city of Glasgow. John Hunter was a man various beyond belief. He had not quite as good an education as William, but he had instructed himself in every part of natural science, and what Hazlitt said of Burke could be said of him—that there was really no specimen of his work which gave a satisfactory index to the variety and power of his mind. Sir Norman Moore, in passing, pleaded that the specimens of war wounds, now in the Royal College of Surgeons, which were still the property of the army, though their grace of preparation and exquisite mounting were due to the staff in Lincoln's Inn Fields, might be made over permanently to that institution. He went on to give a rapid sketch of the growth of medical societies, and said that he did not doubt that the fact of society fellowship had been a great encouragement to many such as Adams in their admirable work.

Dr. Addison, who recalled that he had been a Hunterian professor at the Royal College of Surgeons, said he had been told ever since he entered political life that Government interference and assistance meant red tape and various encumbrances, and he was all the happier, therefore, to hear Dr. Adams testify that although, on the advice of the Ministry, 75 per cent. of the cost of his centre was defrayed out of public moneys, he had not been bothered with unnecessary inspection. There were now 160 ordinary venereal centres, and if many of them were not as competent as the special hospital for pregnant women with venereal disease over which Dr. Adams presided, Dr. Adams himself had suggested the reason, which was the lack of facilities for training men in the most up-to-date methods of treatment. In the programme, detailed and comprehensive, which he had charged Sir George Newman and others to work out in the hope that it might be realized in the coming year, provision was made for a wide expansion of facilities and assistance, not only in relation to this disease but to others, and all that could be done by scientific direction and finance would be done. He knew that he was suspect by the medical profession—("No!")—who asked what schemes he was plotting now; but he trusted that when next year his Ministry produced far-reaching proposals which would vitally affect the medical profession and would give it vastly greater and better-paid opportunities than it had ever had before, the profession would be prepared to consider them on their merits and without prejudice. The Ministry of Health was determined that, in the practice of national economy, it would be wasteful *not* to spend money on making the best use of discoveries in medical science. It proposed to spend not less but more money in research and in organization of medical services. When the time came he would put these proposals forward without apology. Research had been allowed to languish too long, and its necessities had been too tardily supplied, much to the national detriment.

Sir Charters Symonds replied to the toast on behalf of the Society, and referred to the pride of unbroken record of a hundred years of work. The President then proposed, in happy terms, "The health of the guests and of the sister societies," and Sir George Newman, in responding, said that he himself had been taught by Sir Jonathan Hutchinson—a man of the same cast of mind as John Hunter—to admire Hunter for two reasons: first, because his work was based on inductive logic, and secondly, because he was a comparative pathologist. This twofold tradition greatly needed to be sustained. Sir Humphry Rolleston, who also responded, said that on the amalgamation of various societies in the Royal Society of Medicine, it was fully recognized that the Hunterian Society, along with one or two others, was performing such a singularly useful function as a separate body that it would be a pity and a detriment if it were to lose its individuality by absorption. Sir Frank Dyson, the Astronomer Royal, also replied briefly to the toast. Lastly, the health of the Society's executive officers was proposed by Dr. Rowland Humphreys and responded to by Dr. Arthur Davies, the Vice-President.

GENERAL MEDICAL COUNCIL.

ELECTION OF DIRECT REPRESENTATIVES.

ENGLAND AND WALES.

We understand that the result of the poll for the election of direct representatives is as follows:

Verrall, Sir Thomas Jenner (Bath)	5,362
Bolam, Robert Alfred (Newcastle-on Tyne) ...	4,872
Turner, Edward Beadon (London)	4,803
Macdonald, James Alexander (Taunton) ...	4,745
Coke, Wm. Francis Harriott (Ashford, Kent)	3,534
Welply, Alfred (London)	3,491
Stancomb, Ernest Hy. Murly (Southampton)	3,303
Main, George Agnew (Stockport)	2,910
Blackhall-Morison, Alexander (London) ...	1,761
Brown, John (Blackpool)	1,636

A detailed report will, as is customary, be presented by the Registrar to the Branch Council, and we hope to give some further particulars in our next issue.

SCOTLAND.

Walker, Norman (Edinburgh)	974
Duncan, Ebenezer (Glasgow)	823
Dewar, Michael (Edinburgh)	252

We understand that 4,800 voting papers were sent out, so that it would appear that less than one-half the constituency polled.

IRELAND.

Kidd, Leonard (Dublin)	695
McWalter, James Charles (Dublin)	616

ROYAL MEDICAL BENEVOLENT FUND.

At the meeting of the Committee held on November 14th seventeen cases were considered and £212 voted to fifteen of the applicants. The following is a summary of some of the cases relieved:

Widow, aged 82, of M.R.C.S.Eng. who died in 1890. Left unprovided for with one daughter, now aged 49, who does secretarial work, but is at present out of employment. Applicant receives £10 from dividends and £30 a year from another charity. Was helped by the Fund many years ago. Voted £10.

Daughter, aged 65, of M.R.C.S.Eng. who died in 1868. Total income, £56 a year. Rent £36 paid by friends. Takes in a boarder at 21s. a week when possible, but at present without one. Cannot manage owing to the high cost of living. Was helped by the Fund many years ago. Voted £10.

Daughter, aged 70, of M.D.Edin. who died in 1886. Applicant endeavours to make a living by letting rooms, from which source she is usually enabled to pay the rent, £24. She receives £15 from dividends and £30 from brother, but the brother's help must decrease owing to his ill health. Voted £12 in twelve instalments.

Daughters, aged 55 and 47, of L.S.A.Lond. who died in 1903. Their joint income is £69, and they also let rooms when possible. Rent £51. Both applicants suffer from ill health. Relieved eleven times, £137. Voted £18 in twelve instalments.

Widow, aged 48, of L.R.C.P. and S.Edin. who died in 1916. Has no income. She earns about £6 by her own efforts, and pays £13 a year rent, which is provided by pecuniary help from friends. She applied for assistance owing to inability to obtain employment. Relieved four times, £30. Voted £12 in twelve instalments.

M.R.C.S.Eng., aged 50, married, is entirely incapacitated owing to disseminated sclerosis. Applicant's wife earns an average of £13 a year by making shell jewellery, and relations pay £26 a year. Rent £6 for cottage. One son, who is a foundation scholar at Epsom College. Relieved three times, £70. Voted £26 in twelve instalments.

Subscriptions may be sent to the Acting Honorary Treasurer, Dr. Samuel West, at 11, Chandos Street, Cavendish Square, London, W.1.

British Medical Journal.

SATURDAY, NOVEMBER 22ND, 1919.

THE TERMS OF INSURANCE SERVICE FOR 1920.

It is evident from the large number of meetings of panel practitioners that have been held all over the country—and from the correspondence we have received—that there is a good deal of dissatisfaction with certain provisions of the 1920 Medical Benefit Regulations and terms of service proposed under the National Insurance Acts. It is quite possible that this may in part arise from the fact that there has hardly yet been time fully to assimilate the mass of details contained in the draft Regulations. The necessity for innumerable cross references between one regulation and another, and between the Regulations and the Schedules—a necessity which in many cases arises simply from bad drafting—is now proving and will continue to prove a fruitful source of misunderstanding. It may be the duty of the Insurance Acts Committee, in discussing some of the features in the terms of service at the Panel Conference, to lay stress on points that so far have escaped the vigilance of the general profession, and it may rely on the Committee not to shirk this task. In the meantime it seems important to lay emphasis on the fact that in the resolution to be submitted to the conference on November 27th the Committee definitely states that the draft Regulations "do not in every respect fulfil its hopes and desires," and the conference is only recommended to accept the Regulations "provided that the remuneration be on a satisfactory basis." In other words, the Minister of Health has in the draft Regulations afforded additional reasons for an even greater increase in the capitation fee than would have been demanded under the old terms and conditions. Some correspondents are, indeed, inclined to ask whether any payment will adequately compensate for certain provisions in the new Regulations, and would reply in the negative as regards at least one of the terms of service. We refer to Regulation 16 (c) and Section 4 of the First Schedule dealing with the arrangements for transfer of practices on retirement or death. For a concise statement of what is involved, we may quote from document M. 23 of the Insurance Acts Committee:

> It will be seen that the present arrangement by which patients are automatically transferred to the successor (unless they express a wish to be placed on the list of some other practitioner) is continued till the end of 1922 for all practitioners who are on the medical list of any Committee at the end of 1919. But for these practitioners after 1922, and for all others, after the new Regulations come into force, the system is to be changed—the patient becomes unallocated and is entitled to choose any other doctor when he pleases. All practitioners who in future buy panel practices will do so with full knowledge of the facts. Those now on the panel who sell, before the end of 1922, will have the same rights as at present. After that time the transfer of panel patients will rest on the introduction the doctor can give the purchaser, just as his private practice does. The inconvenience arising from a possibly large number of unallocated persons being created in this way is met by the new Allocation Scheme, which every Insurance and Panel Committee must jointly prepare (Reg. 15). This scheme must provide for the assignment of all insured persons who after due notice have failed to select a doctor—not necessarily for every unallocated person, although this could be done if desired, but the scheme could and probably would be used to allocate all those persons belonging to the practice of a deceased doctor, and in such allocation the claims of the executors of such a practice would doubtless be recognized by a body which is half medical.

It may perhaps be doubted whether this explanation would be accepted as a whole in a court of law, for the drafting of Section 4 of the Schedule is so involved that disputes may easily arise as to interpretation, and this section alone affords a strong argument in favour of appeal being allowed from the decision of the Minister to a court of law. In the main, however, the passage cited may be taken as a correct summary of the position. It seems, then, to be clear that the provision will tend to prevent—as it is no doubt intended to prevent—any perpetuation of vested interests that may have arisen, or that might arise, under the Insurance Act; and the question has been put in our columns, Is this fair to panel practitioners? If it could be shown that the rights of transfer of practices under the old Regulations interfered with any insured person's full and free choice of doctor the position would be different. But this cannot be shown. The present Regulations carefully and repeatedly safeguard the free choice of doctor, and under them no insured person who cares the least about the matter need be transferred to any but the doctor of his choice. The present arrangements about transfer in no way limit the right of free choice, and the profession has no desire to impose any such limit. They do not afford opportunity for the creation of any far-reaching vested rights. The 1911 Act, Section 15, and still further the 1913 Act, Section 11, allows the Ministry to alter the present panel system practically as it likes, and anyone who buys a practice does so knowing well that the whole system may be changed at any time and all panel lists be done away with. That possibility is part of a purchaser's risk, and the profession does not seek to evade it. It is not clear what the insured is to gain from the new proposal. The present arrangements for transfers are valued by panel practitioners; they are regarded as one of the assets in a service which is not too popular, and to take away this asset must tend to make the insurance service even less acceptable than it has been. It may be granted at once that there have been some abuses in the buying and selling of panel practices, and the Insurance Acts Committee recognizes that some provision to prevent this should be made. It might be suggested, for example, that some sort of guarantee should be given by a purchaser that he intends bona fide to carry on the practice himself, not merely to buy it in order to sell again in a short time at a higher price. But many members of the profession fear that the capital value of all insurance practices—and, inextricably mixed up with this, the capital value of any private practice that may be joined to the insurance practice—may be lessened, if not in some cases practically destroyed. This point will, no doubt, be elucidated during the discussions at the Conference.

The Insurance Acts Committee has been criticized for the way in which it has presented the case for an increase of remuneration. The criticisms have mostly taken the form of finding fault with the Committee for laying too much or too little stress on this, that, or the other point, but no fresh arguments of value have been advanced. It must be noted that the Committee has never yet suggested that 7s. 3d. was an adequate fee under the old Regulations. This sum has been

taken as a simple basic fact, and members of the Committee as business men recognized that it would be useless at this stage to start any discussion with the Government as to whether the profession was underpaid before the war. It may be admitted at once that the Minister of Health has made a reply to Memorandum 22 which, in some parts, is very showy, and may appear plausible to what may be called the gallery of popular opinion. His reference, for example, to the Committee's statements about income tax can hardly be regarded as a fair retort, though it may possibly tell with some people who have not studied the Committee's case. The gratuitous statement that medical incomes must be subject to income tax, just as other incomes, seems to assume that the Committee had argued for a partial escape from income tax for the profession. Of course, nothing of the sort was ever suggested, and it is difficult to understand why the Ministry should make the reference to this an occasion for lecturing practitioners on their duties as citizens. Again, it is disquieting to find that the Ministry refuses to allow that a 60 per cent. increase in remuneration can properly be made in respect of increased cost of living and practice expenses in an urban area.

The Ministry further disputes the demand for 10 per cent. increase in respect of extra attendance required for discharged disabled and demobilized soldiers and for general deterioration of health owing to war conditions. Every practitioner knows quite well that 2½ per cent. for treatment of discharged disabled soldiers is far less than it ought to be, as treatment has so often been given and not charged for. No doubt this was unbusinesslike, but the fact remains and should be taken into account. It would appear that the medical profession never will learn that it is an axiom of all governments that if the doctors act generously in giving their services free in emergencies, they shall after a time be compelled to continue such free service. Further, at the present time the Pensions Medical Boards are simply crowded out with thousands of demobilized soldiers, many of whom, in their hurry to get home, signed the Form Z. 22, stating that they had no disability due to military service, and then a short time afterwards claimed a pension for some disability. A large proportion of the claims are in respect of "D.A.H.," shell shock, malaria, bronchitis, rheumatism, and myalgia, all of which need far more attendances from panel practitioners than the wounds and injuries of discharged disabled soldiers. Many of the latter class used to attend the military hospitals and have only recently come to panel practitioners since the hospitals were closed. It is unfortunate that no statistics of these cases are available, but it is still more to be regretted that a Minister should take advantage of this fact against the panel practitioner.

Again, the Ministry of Health appears to make light of the added duties required under the new Regulations; and yet a single one of these affords ample ground for a very substantial increase in remuneration—namely, that which practically makes every panel practitioner liable for the whole insured population of his area in emergencies. It would be difficult to imagine a more distasteful responsibility than this—that every practitioner should be liable to be called on and compelled to attend at any hour of the day or night not only his own patients, which is hard enough, but any patient of any other doctor who happens not to be at hand at the time. In many such cases a whole year's capitation fee of the patient would not adequately compensate the doctor who is forced to attend, especially as it too often happens that the so-called emergency exists only in the imagination of a patient who has a fancy for a second opinion.

We publish in the Supplement this week an effective rejoinder by the Insurance Acts Committee to the reply of the Minister of Health to document M. 22. The general tenor of the Ministry's reply can only be described as officially unsympathetic towards panel practitioners. If this attitude be persisted in the prospects cannot be regarded as bright for the insurance service. It is not too much to say that in these negotiations the health of the people and the future of the medical profession are at stake; and this is no time for the exhibition of adroitness in debate by practised Government hands.

"NEW LAMPS FOR OLD" IN OBSTETRICS.

From the nature of things obstetrics has not received from the war the same stimulus as surgery and medicine. There has, however, been no standing still, and if there have been no striking advances, there has at least been a healthful spirit of inquiry at work. As in the case of the unrest in the social world, the immediate direction of its working may give rise to differences of opinion and may not always appear wholly good, but the ultimate result may be welcomed rather than feared by the progressively minded.

An important movement, illustrative of the spirit mentioned, is the crusade which was opened by Mr. Victor Bonney some months ago at the Royal Society of Medicine in favour of the fuller recognition of the essentially surgical nature of obstetrics. It has long been recognized that the mortality of childbed has not diminished to the extent that might have been hoped for since the adoption of antiseptic and aseptic methods in midwifery. This applies to the whole civilized world, maternity hospitals alone excepted. The figures for the latter show an improvement, following upon the advent of Listerism, so dramatic that it is manifest that strict antiseptic precautions, enabling aseptic technique to be followed where possible, form the key to the whole situation. The difficulty is to fit the key to the lock—in other words, to apply the principles of asepsis and antisepsis to home-conducted labours, for the number of labours conducted in hospitals and nursing homes is a very small fraction of the total births. Mr. Bonney believes that the application can only be made by a radical change in the conception of midwifery by both the profession and the public, and by a revision of the attitude of thought that dominates the teaching and practice of the art. Every obstetrician will agree with him that midwifery is a surgical art, but its recognition as a department of surgery is still far from being established. This is due partly perhaps to the fact that it is the oldest branch of the profession, and partly to the fact that it developed as a more or less independent subject, largely in the hands of women who had no general training in medicine. Only when it began to pass into the hands of men did it gradually become grafted into the main stem, and too many traces still remain of its original independence. Another factor contributing to the failure to recognize the essential surgicalness of midwifery is the contrast—which is placed before the student at his most impressionable period—between a labour conducted in a lying-in hospital with all the circumstances of surgery, and the similar procedure carried out in the extern

department under conditions that would often be a direct contraindication to "surgical" interference. Thus the student and practitioner as well as the public form a conception of midwifery as an art to which the principles of modern surgery only partially apply. As mentioned in our recent article on the teaching of obstetrics in London, this glaring contrast is a bad feature in the practical training of the student, only surpassed in its evil effects by a training, such as is still given to some London students, in which not even a vision of hospital practice is obtained, and therefore no such contrast is or can be drawn.

Mr. Bonney believes that this state of matters can only be remedied by educating the student and the public in the necessity of surgical surroundings and conditions for childbirth; and by dispelling the notion that childbirth, being a "natural" process, is or ought to be on the same level as other natural expulsive functions. "Labour should be considered and treated as a surgical operation, and the puerperium as a period of post-operative convalescence."

Such, in brief, is the contention. With the objects of the crusade and with the general lines of argument every obstetrician will agree. With a number of the detailed arguments used and conclusions reached by Mr. Bonney there will be considerable disagreement, but probably he pitched his argument high of set purpose. Our concern at the moment, however, is not with details or even conclusions, but rather to invite thoughtful attention to a movement which may be fraught with the greatest potential benefit. If the crusade is to succeed it must be shared in not only by every obstetrician and every practitioner practising midwifery, but also by those who influence medical practice and education in the Government and in the General Medical Council.

Another and rather different illustration of this spirit of inquiry which, regarding authority as too often only another name for tradition, desires to test and prove all things for itself, appeared in our columns recently in a reference to the conduct of the puerperium. Our correspondent was disposed to tilt against the custom of keeping the puerperal woman in bed for ten or more days. His experience in Australia was that early rising was the best way to avoid puerperal infection, inasmuch as it favoured proper drainage of the birth canal. Without detracting from the obvious advantages of adequate drainage, it must be said that the contention cannot safely be accepted. Prevention by strict asepsis and antisepsis is infinitely better than any method of cure. Moreover, as we pointed out, the modern method of conducting the puerperium does favour drainage, but without the concomitant risks of early rising in the form of subsequent displacement and the like.

There is, however, another aspect of this question besides the surgical which calls for attention, and that is what, for want of a better name, may be termed the psychological. Once a patient, especially the mother of a family, is allowed out of bed, she passes to a large extent out of the control of her nurse, and is prone to resume too soon the burden of her domestic cares. She does not understand that the nervous machinery needs rest as much as the muscular if it is to avoid undue wear and tear. After nine months during which every organ of the woman's body has been working under an increased pressure (whether there have been clinical manifestations of the strain or not), ten to twenty days' rest in bed is a wholly beneficial restorative. Most women frankly acknowledge this, and it is not improbable that many of those who are most eager to cut short the resting period are amongst the very patients for whom it is most necessary and valuable—women of restless nervous energy, in whom "the spirit truly is willing, but the flesh is weak." There is no reasonable doubt that modern management of the puerperium, as compared with the old rigid, lowering treatment, provides for a suitable "post-operative convalescence," which early rising denies, or at least risks, without corresponding advantage in the long run either to the individual or to the race.

AMERICAN HONOURS FOR BRITISH SURGEONS.

THE President of the United States of America has conferred the Distinguished Service Medal on Sir Anthony Bowlby and Sir Robert Jones. They were invested by General Ireland, Director-General of the Medical Corps of the United States army during the meeting of the American College of Surgeons in New York. Both these British surgeons were at the same time admitted Fellows of the College. Both ceremonies took place on the concluding day of the meeting (October 25th). Afterwards Sir Anthony Bowlby delivered the annual convocation address, taking as his subject some of the surgical lessons of the war. The meeting began on October 20th, and on the evening of that day the principal address on surgery was delivered by Sir Anthony Bowlby, who dealt with the treatment of gunshot fractures of the femur in France; he was followed by Sir Robert Jones, who spoke on the treatment of these cases in England. On the following day Sir Robert Jones contributed to a discussion on tendon transplantation for nerve injuries, and on October 22nd read a paper on stiff and flail joints following gunshot wounds, which we hope to have an early opportunity of publishing. After the meeting in New York Sir Anthony Bowlby and Sir Robert Jones visited by invitation Boston, Cleveland, Chicago, and Philadelphia, and addressed meetings of the profession in each of these cities. Everywhere their reception was most cordial, and those American surgeons who had served in France and Great Britain took every opportunity to express their appreciation of the manner in which they were received by the Royal Army Medical Corps and the facilities afforded them at the casualty clearing stations before the American troops had come into action.

THE PARIS SCHOOL.

THE Faculté de Médecine of Paris, although it no longer claims to have been found d by Charlemagne, is venerable in age no less than in reputation. It was founded in 1270, ten years after St. Louis had attended the consecration of the Cathedral of Chartres, and while the sculptors were yet at work on the transept porches—a curious reflection. But change does not wither the Faculty nor stale its infinite variety, as is displayed in an illustrated pamphlet we have received from M. H. Roger, its Dean. The Faculty has been completely reorganized, is reopening its clinical departments and its laboratories, and has turned to teaching with renewed energy. There have been periods when it was very much the custom for young British graduates to spend some time in Paris. This was particularly the case early in the nineteenth century, when Laënnec and his followers were establishing the arts of auscultation and percussion. Later on young physiologists readily went to Paris to place themselves under the influence of the inspiring teaching of Claude Bernard, one of the most powerful and original minds ever given to the subject. There is room for the revival of the custom, and some may be glad to know that the Faculté de Médecine has made this term special arrangements for the benefit of graduates, whether French or foreign. It may be explained that of the thirty-five civil hospitals in Paris all are used

for clinical instruction, and all, with one exception, are controlled by L'Assistance Publique; but no difficulty has been encountered in their utilization for the purposes of the medical school. In certain hospitals the Faculté appoints clinical professors, who are physicians or surgeons to the hospital. It appoints also the professors' principal assistants. The professorial unit or *Service* usually consists, in addition to the professor himself, of a chef de clinique, one or two assistant chefs de cliniques, one or two chefs de laboratoires, demonstrators, monitors, one or more internes, and six or eight externes. Some of the services include also a radiologist and various specialists, who attend two or three times a week. The professor gives two formal lectures to students every week, and teaches in the wards or out-patient department every morning. The other hospital services in these and other hospitals are under the direction of the physicians and surgeons of the hospitals. The Faculté itself has over twenty clinical services—four each in medicine and surgery, three in obstetrics (one reserved for the teaching of midwives), one in therapeutics, and one each in the diseases of children, in the hygiene and diseases of infancy, in dermatology, neurology, psychiatry, infectious diseases, the surgery of children, gynaecology, urinology, ophthalmology, and oto-rhino-laryngology. The students for whom there is no room in the professor's clinic attend at the other hospitals for clinical instruction. Many of the professors have arranged special courses, and also post-graduate courses, for the benefit of graduates, French or foreign, visiting Paris. The instruction given is partly theoretical and partly practical. At the termination of the course a certificate of attendance is granted. In addition, courses open to foreign graduates are given in most of the hospitals by the other physicians, surgeons, and specialists attached to them. Some of these courses are given during the vacations; thus, during the Easter vacation of 1920 a fortnight's course on diseases of the liver, pancreas, and spleen will be given at the Hôtel-Dieu by Professor Gilbert and M. Villaret. A similar course, lasting a month, will be given in June on diseases of the stomach and intestines. At the same hospital Professor Hartmann, with the assistance of Dr. Parmentier (physician to the hospital) and Dr. Maingot (radiologist) will give a course on the methods of examination and surgical treatment of diseases of the stomach and intestine. At the Hôpital Cochin Professor Widal, with the assistance of M. A. Lemierre, will give a course on the diagnosis of diseases of the kidneys, the liver, the respiratory and circulatory systems, the digestive organs, the nervous system, and the blood, and on infectious diseases. The course, which, according to the programme, is of a highly practical character, is now being given, and will be repeated in May. In this course, in that given by Professor Chauffard at the Hôpital Saint-Antoine, and in another by Professor Vaquez at the Hôpital de la Pitié on diseases of the heart, vessels, and blood, the teaching will be partly in English. Vacation courses will be given at Easter and again in the later part of September on obstetrics and puericulture, at the Clinique Baudelocque by Professor Couvelaire. Clinical courses in English and Spanish will be given in the obstetrical clinic at the Tarnier Hospital in May and June. In addition there are numerous courses in the various specialties. The course at the Medico-Legal Institute is open to foreign graduates; the teaching includes instruction in toxicology and in industrial medicine and surgery. To obtain admission to the various courses certain formalities have to be observed and fees, which are on a very moderate scale, paid. The French law is very stringent, and no one is allowed to practise in France who has not, after taking the *baccalauréat*, gone through the whole medical curriculum in France, and passed the examination for the State diploma. Foreigners are, however, allowed to enter for the diploma of Doctor of Medicine of the University of Paris. It is a purely scientific diploma, and does not confer any of the rights and privileges which attach to the State diploma. Candidates for this doctorate may be dispensed from attendance at classes and from some of the examinations.

ANTISCORBUTIC VALUE OF COW'S MILK.

IN an article continuing the record of their valuable investigations at the Lister Institute on the subject of scurvy, Misses R. E. Barnes and E. M. Hume describe their experiments on the relative antiscorbutic value of fresh, dried, and heated cow's milk.[1] Previous observations had shown that raw cow's milk, though it possesses antiscorbutic properties, is much less valuable in this respect than many raw fruits and vegetables; for example, whereas 1.5 to 10 grams daily of these vegetables will protect guinea-pigs from scurvy on a diet otherwise devoid of all antiscorbutic material, 100 to 150 c.cm. of raw cow's milk was required to give similar protection. As dried milk is being used for the feeding of infants to an increasing extent, and has definite advantages in convenience and in its freedom from the risk of tuberculous and other infections, it is important to determine if its antiscorbutic and nutritive values are lower than those of raw milk. Clinically some infant specialists have never seen scurvy as a result of feeding with dry milk; but Barnes and Hume's experiments on guinea-pigs and young monkeys prove quite definitely that dried milk is markedly deficient in antiscorbutic value as compared with raw cow's milk. Sir T. Barlow ascribed the subperiosteal haemorrhage in infantile scurvy to increased vascularity of the periosteum, but *post-mortem* examinations of slight and incipient scurvy in monkeys suggest that the bone becomes rarefied at an early stage of the disease, and that the blood oozes outwards, presumably from haemorrhage into the bone marrow. Rapidly scalding milk, so as to keep it at a temperature of between 70° and 100° for about five and a half minutes, which is commonly believed to kill the tubercle bacillus, causes comparatively little damage to the antiscorbutic vitamine. No evidence was forthcoming to suggest that the growth-promoting properties of fresh milk suffer any serious damage during the process of drying. An interesting point—also, we believe, observed recently in the Central Empires—is the influence of the cow's fodder on the antiscorbutic value of the milk; in these experiments cow's milk had a higher value in summer than in winter, depending on the difference between fresh herbage on the one hand, and hay, oil-cake, cereals, and roots, especially if the roots are mangolds and not swedes or turnips, on the other hand. Therefore, as cow's milk is a foodstuff of inconstant value as regards its antiscorbutic properties, and as the latter are much reduced by drying, there is good reason for advocating the use of an extra antiscorbutic, such as raw orange juice and raw swede juice, in the dietary of infants fed on dried milk.

THE STATE AND CHRONIC DISEASE.

A CHADWICK Lecture on the State in relation to chronic disease was given by Dr. R. O. Moon at the house of the Medical Society of London last week. He uttered a warning against the dangers of the specialism which isolated departments of knowledge; political economy and medicine should be regarded as parts of sociology. He thought that too static a view was taken of chronic diseases; their apparent definiteness, fostered by nomenclature, was fallacious. While science analysed the State should integrate. The chronic diseases at present dealt with by the State were insanity and tuberculosis. With regard to the former, he said that there was a great need for hospitals or special houses for borderland cases, and, with regard to the latter, that the exaggerated idea of the infectivity of consumption should be combated, and ample provision made for post-sanatorium treatment of

[1] R. E. Barnes and E. M. Hume, *Biochem. Journ.*, 1919, xiii, 306-328.

tuberculosis. Work similar to that done by employment bureaux for disabled soldiers should be applied to all persons suffering from chronic diseases. There was difficulty in defining what was meant by "light work," and medical men should make themselves familiar with the amount of work involved in various industrial and agricultural occupations. He concluded by pleading for closer co-operation between pension committees, labour exchanges, and the medical profession. After the lecture Sir James Crichton-Browne, who was in the chair, presented a Chadwick gold medal and prize for excellence in municipal engineering and hygiene to Mr. P. S. L. Bovey, a student of University College, London. The medal has been offered annually by the Chadwick trustees for competition by the engineering students of University College for twenty years, and has been awarded in every year but one.

THE TREATMENT OF CHOREA BY THE INJECTION OF HORSE SERUM INTO THE SPINAL THECA.

Among the many forms of treatment that have been applied with greater or less success in chorea is that of Goodman. This consists in drawing 50 c.cm. of the patient's blood, separating the serum, and injecting into the patient's spinal canal after the withdrawal of a somewhat larger amount of spinal fluid; this injection may be repeated from one to four times, and the treatment is reported by Goodman to have given excellent results. It has been modified by Dr. L. Porter, who gives an account[1] of seven patients with chorea treated by the injection of inactivated normal horse serum into the spinal theca. The first four patients received an initial injection of 20 c.cm. half an hour after ½ c.cm. of the same serum had been given subcutaneously in order to test for hypersensitiveness to it. Five of the patients received second injections on the fourth, fifth, or sixth day after the first; two patients received 10 c.cm. only. In each instance an amount of cerebro-spinal fluid greater than that of the subsequent injection of serum was withdrawn; all the cases showed a high intraspinal pressure. Two sets of unpleasant reactions were caused by these injections—prostration, headache, and severe vomiting coming on soon after the operation, and distressing urticaria a week later, readily counteracted by subcutaneous injections of adrenalin. The results of this treatment may be described as encouraging, particularly in the very severe cases; before the serum was used two of the patients could be kept in bed only by the use of restraining packs, but less than forty-eight hours later each was able to carry a cup and drink without the nurse's help, and the emotional overflow was much lessened; while by the end of the third week it was with difficulty that choreic movements could be brought out. In future Dr. Porter intends to use smaller injections of not more than 5 or 10 c.cm., repeated as required. In a discussion that followed the reading of Dr. Porter's paper, Dr. Schloss remarked that twelve cases had been treated with several injections of their own serum intrathecally at Bellevue Hospital with results no better than those obtained by the usual methods; and Dr. La Fétra said that he had discontinued the use of this treatment, adding that he would like to see Dr. Porter's method used more extensively.

[1] *Trans. American Pediatric Society*, Lenox, 1918. xxx. 217.

INTERNATIONAL HEALTH.

The Office International d'Hygiène Publique was established by international agreement on December 9th, 1907. Thirty-three countries now take a share in the work. They include Great Britain, India, Australia, and Canada; France, Algeria, and French Indo-China; the United States, the Argentine Republic, Brazil, and several other South American States; Turkey and Bulgaria; but not Germany, nor the States into which the Austro-Hungarian empire has been dissected. At a recent session of the members of the Office, after considering its future relations to the League of Nations—which is required by one of its articles to interest itself in international questions of public health—it resolved to place itself unreservedly at the disposal of the Governments which form the League. The epidemic of typhus in Poland was discussed, and it was reported that the League of Red Cross Societies had sent a medical commission to Poland, which had investigated the measures of precaution and treatment taken on the eastern fronts in the occupation of the Polish armies and in the interior of Poland by the new Polish Ministry of Health.[1] It was found that the military and civil organizations were enlightened and efficient, but were hampered by shortage of food and of hospital and household equipment. The situation is aggravated by the constant movement of refugees and prisoners along the eastern frontier of Poland. The commission formed the opinion that there was serious risk of the spread of the epidemic this winter towards the western parts of Europe, and the League of Red Cross Societies, finding that its means were inadequate to cope with the situation, has brought the report of the medical mission to the notice of different Governments, urging them to render all assistance possible, by the supply of material and personnel.

[1] British Medical Journal, November 1st, 1919, p. 565.

THE CANADIAN ARMY MEDICAL CORPS.

The work of the Canadian Army Medical Corps in this country has come to an end, and its Director-General H.Q. London, Major-General G. L. Foster, C.B., has returned to Canada. He leaves behind him here many friends, who will not forget the energy, wisdom, and courtesy with which he discharged the difficult duties of the great office he held. The qualities displayed by him as the head of the corps were to us typical of those possessed by every one of its officers. Many names come to mind—Ross, and Birkett, and Rudolf, and Fotheringham, and Andrew Macphail, and John McCrae who died not far from the Flanders fields of which he sang in verse that will live. In the words of the great poet of all of us who dwell by the Seven Seas—

> There is some soul of goodness in things evil,
> Would men observingly distil it out.

Out of the evil days of the war we have distilled the fragrant memory of the loyal eagerness with which our Canadian comrades gave all they had: and how much it was—good measure, running over.

ROYAL COMMISSION ON OXFORD AND CAMBRIDGE.

In June last Convocation decided that the University of Oxford should apply for a Government grant, or grants, on the conditions stated by the President of the Board of Education—namely, that the University should co-operate with the Government in an inquiry into its whole resources and the use which has been made of them. A similar proposal had been carried at Cambridge. It is announced this week that the King has approved the appointment of Royal Commissioners to consider the applications made by the Universities of Oxford and Cambridge for financial assistance from the State. For this purpose the Commissioners are charged to inquire into the financial resources of the universities and of the colleges and halls therein; into the administration and application of these resources; into the government of the universities; and into the relations of the colleges and halls to the universities and to each other, and to make recommendations. The Commissioners constitute one body, but are authorized to sit for purposes of inquiry in three separate committees—the Oxford Committee, the Cambridge Committee, and the Committee on Estates Management. Mr. Asquith is chairman of the Commission, and of the Oxford Committee. Mr. Gerald Balfour is chairman of the Cambridge Committee, which

includes two members of the medical profession: Sir Walter Fletcher, F.R.S., secretary of the Medical Research Committee, and Dr. H. K. Anderson, F.R.S., Master of Caius College. Science is represented also on this Committee by Sir Horace Darwin, F.R.S., and Professor Arthur Schuster, secretary of the Royal Society; while Sir Henry Miers, F.R.S., and Professor W. H. Bragg, F.R.S., represent science on the Oxford Committee. The secretary of the Commission is Mr. C. L. Stocks, of the Treasury, and an assistant secretary has been appointed for each of the three Committees—namely, Mr. M. N. Tod, Fellow and Tutor of Oriel College, Oxford; Mr. E. Bullough, Fellow of Caius College, Cambridge; and Mr. C. B. Marshall, member of a firm of solicitors and parliamentary agents. The Oxford and the Cambridge Committee each consists of nine members; the Estates Committee has five members, two of whom have held office in the Surveyors' Institution. The offices of the Commission are at 2, Queen Anne's Gate Buildings, S.W.1.

THE HISTORICAL MEDICAL MUSEUM.

THE Wellcome Historical Medical Museum has been reopened, after redecoration and rearrangement of many of the objects. A number of additions have been made; among these is a cast of the statue of Asklepios, excavated at Hadrian's Villa, Tivoli, about a century ago. A Graeco-Roman original full-length figure in marble of the same deity, excavated at Carthage about six years ago, has also been acquired. A microscope made by Edward Culpeper of London in the early part of the eighteenth century is another addition; it is a fine piece of workmanship. The relics of Harvey have been enriched by the addition of a copy of the portrait, believed to be by Jansen, which hangs in the board room of the Canterbury Hospital. The portrait was little known until brought to light by Dr. F. William Cock. He called to it the attention of Lord Northbourne, who had it restored by the same artist as has now painted the replica. One of Zoffany's admirable group portraits, showing Dr. J. Lettsom, with his wife and children, in the garden of their house at Grove Hill, Camberwell, has been acquired from a descendant of the family. Various curiosities have been added: among them is a French travelling bath of copper with carved wooden frame, made in the time of Louis XV; an Italian medicine chest, said to date from the sixteenth century; the ivory top of the walking cane used by William Hunter and the walking cane of Edward Jenner, both of which have vinaigrettes; and an Italian bed table and book rest of the seventeenth century, which seems to embody all so-called modern improvements. Dr. Parkes Weber has presented a large collection of old clinical thermometers, through which the history of the instrument can be traced.

SIR DONALD MACALISTER, K.C.B., M.D., F.R.C.P., President of the General Medical Council, has been invested by President Poincaré with the Cross of Commander of the Legion of Honour.

THE Thomas Vicary Lecture of the Royal College of Surgeons of England will be delivered by Sir John Tweedy on Wednesday, December 3rd, at 5 p.m. The subject of the lecture will be "The surgical tradition." The Bradshaw Lecture before the same College will be delivered by Sir Charles A. Ballance, K.C.M.G., on Thursday, December 11th, at 5 p.m. The subject is "The surgery of the heart."

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Medical Notes in Parliament.

Nurses Registration: Government Bill.

THE bill entitled "Nurses Registration (No. 2) Bill," introduced into the House of Commons by Dr. Addison on November 6th, has now been printed. The measure has been framed by the Minister of Health in fulfilment of a promise he gave last July when the Nurses Registration Bill, introduced as a private measure by Major Barnett, was under consideration on report in the House of Commons. That bill had been drawn up by the Central Committee for the State Registration of Nurses, and was opposed by a number of private members who were in favour of another bill which had been introduced in the House of Lords on behalf of the College of Nursing, Ltd. Dr. Addison then said that the Government had endeavoured to obtain agreement between the various parties interested, but the conferences held had convinced him that this was not possible, and the Government had decided to take up the subject itself. On this understanding Major Barnett withdrew his bill.

The bill now submitted by Dr. Addison provides for the establishment of a General Nursing Council, whose business it shall be to form a register of nurses. The register is to consist of five parts: (*a*) A general part containing the names of all nurses other than those included in some other part; (*b*) a supplementary part for male nurses; (*c*) a supplementary part for mental nurses; (*d*) a supplementary part for nurses trained in the nursing of sick children: and (*e*) any other prescribed part. The Council is to make rules for administration. Under these rules it shall be provided, as a condition of admission to the register, that the entrant shall have undergone the prescribed training, and shall possess the prescribed experience; the prescribed training to be in an institution approved by the Council or in the service of the Admiralty, the Army Council, or the Air Council; there is also a provision to enable existing nurses to be registered within two years after the rules operate subject to evidence that such nurses are of good character, are the prescribed age, are persons who for three years before November 1st, 1919, were bona fide engaged in practice as nurses, and have adequate knowledge and experience as nurses. Rules under this section are not to operate until approved by the Minister of Health. Every rule under the section is to be laid before Parliament, and if an address is presented by either House within twenty-one days afterwards praying that the rule be annulled, His Majesty in Council may annul it.

The bill provides also for the appointment of staff at such salaries as the Council may determine, subject to the approval of the Minister of Health. The expenses allowable for administration are to be subject to directions to be given by the Minister of Health.

The fee for examination or registration is to be determined by the Council, but that for existing nurses shall not exceed one guinea for registration; the amount payable for retaining a name on a register shall not exceed 2s. 6d. a year.

Any person satisfying the Council that he or she has been registered as a nurse in any part of the Dominions outside the United Kingdom, to which this section applies, is to be entitled to demand registration. The section will apply to such Dominions as have similar standards of training and examination for registration.

Any person aggrieved by the removal of his or her name from the Register may within three months from the date of notice appeal against the removal in the manner provided by rules of the High Court, but there shall be no appeal to any higher court.

Any person aggrieved by the refusal of the Council to approve any institution for the purposes of the rules under the bill relating to training may appeal against the refusal to the Minister of Health.

The penalties for unlawful assumption of the title of registered nurse and for falsification of register are set forth as under: For unlawful assumption of title of registered nurse a fine not exceeding in the case of a first offence £10, and in the case of a second or any subsequent offence £50; for falsification of register a fine not exceeding £100, the offence to be deemed a misdemeanour.

The constitution of the Council is set out in a schedule. It is to consist of twenty-five members. On its first constitution the Council is to be composed of the following persons:

Two persons, who shall not be registered medical practitioners, or nurses, or persons concerned with the regular direction or provision of the services of nurses, appointed by the Privy Council.

Two persons appointed by the Board of Education.

Five persons appointed by the Minister of Health, after consultation with persons and bodies having special knowledge and experience of training schools for nurses, of the work of matrons of hospitals, of general and special nursing services, and of general and special medical practice.

Sixteen persons who are or have at some time been nurses actually engaged in rendering services in direct connexion with the nursing of the sick, appointed by the Minister of Health after consultation with the Central Committee for the State Registration of Nurses, the College of Nursing, the Royal British Nurses Association, and such other associations or

organized bodies of nurses or matrons as represent to the Minister that they desire to be consulted in the matter.

The first members of the Council are to hold office for such term not exceeding three years from the commencement of the Act as the Minister of Health shall determine. After the expiration of the term of office of the first members of the Council, the Council is to be composed of nine persons appointed respectively by the Privy Council, the Board of Education, and the Minister of Health, and of sixteen persons, registered as nurses under this Act, elected in accordance with the prescribed scheme and in the prescribed manner by the persons so registered at the date of election. Members of the Council other than the first members are to hold office for the term of five years. Vacancies are to be filled by appointment by the body or person by whom the members retiring were appointed.

The bill was read a second time on November 18th.

Rats and Mice Bill.—The Rats and Mice (Destruction) Bill was read a second time in the House of Lords on November 11th, on the motion of Lord Lee of Fareham. He recalled that the damage done by rats and mice annually in this country was estimated to amount to forty million sterling, that the number of rats was at least equal to one per head of the population of these islands, and that ten rats between them consumed as much breadstuff as a man and his wife under the bread ration.

Demobilization of Medical Practitioners.—Dr. Farquharson, on November 12th, asked the Secretary of State for War what was the total number of medical practitioners demobilized since April 1st, 1919. Mr. Churchill replied that the number of medical officers demobilized since April 1st, 1919, was 4,823. Dr. Farquharson then asked how many medical practitioners holding temporary commissions in the Royal Army Medical Corps, T.F., and the Royal Army Medical Corps, S.R., respectively were still detained under the terms of their contracts in Mesopotamia, India, and Egypt respectively; and whether the numbers given included any officers in respect of whom special recommendation had been made for early release by the Ministry of National Service prior to April, 1919. Mr. Churchill said he was not in a position to give separate figures for the several categories of officers referred to in the first part of the question, but the total figures were: Mesopotamia, 173; India, 152; Egypt, 244. These totals included the following, in respect of whom a special recommendation for early release was received from the Ministry of National Service prior to April, 1919:

	Temporary Commissions.	Territorial Force.	Special Reserve.
Mesopotamia	9	—	1
India	12	1	2
Egypt	5	2	1

The figures were only approximate, as a large number of officers were at present embarking for the United Kingdom from the countries in question.

Civil Employment of Demobilized Medical Officers.—Brigadier-General Croft asked, on November 17th, whether the attention of the War Secretary had been called to the fact that there were numerous medical officers who by joining the army sacrificed their practices; and whether steps were being taken to ensure that employment as far as possible should be given to demobilized temporary medical officers. Mr. Churchill replied that every sympathy had been shown to the officers referred to. Some time ago instructions were issued to military commands that when the part-time services of civil medical practitioners were required every effort should be made to employ those demobilized officers who had served overseas. He understood also from the Ministry of Health that endeavours were made to give preference, as far as possible, to ex-service candidates for appointments under local authorities. Brigadier-General Croft asked whether certain orders had been issued for giving demobilized temporary medical officers preference in Government medical work; and, if so, whether they were being carried out by all Government departments concerned. Mr. Churchill said he could add nothing to what he had said. Sir Worthington-Evans, on a similar question, repeated that in making appointments of medical men to positions under the Ministry of Pensions it was the practice to give preference to doctors who had served abroad during the war.

Furlough for Medical Officers in Mesopotamia.—Mr. Perkins, on November 17th, asked whether it was the case that several regular officers of the Indian Medical Service now in Mesopotamia had served there continuously for four hot seasons and that some of them had not been on furlough for nine years. Mr. Montagu (Secretary for India) said he was afraid that leave was overdue for a number of officers of the Indian Medical Service. This unfortunate state of affairs, to remedy which no effort was being spared, was not peculiar to Mesopotamia. As to Indian Medical Service officers in civil employ in Mesopotamia, it was hoped to replace them from home before very long.

Medical Inspection of School Children.—In a written reply to Mr. T. Thomson, on November 17th, Dr. Addison stated that he was informed that medical inspection in public elementary schools was fully maintained throughout the war in more than two-thirds of the areas of local education authorities. In the remaining areas where the provision had to be temporarily restricted they were now being rapidly restored as the requisite staffs were obtained. In the circumstances no special instruction appeared necessary. Section 18 of the Education Act was brought into operation on August 8th, 1918, except in so far as it imposed a duty. The present intention was to bring it into full operation on April 1st, 1920.

The High Price of Milk.—Mr. Doyle asked the Minister of Food, on November 13th, if, in view of the hardship and injury caused to children of tender age by the high price of milk, he was prepared to consider a proposal that the price should be reduced to parents who could produce certificates that they had children under the age of 10; and whether he would issue instructions to the local authorities to deal more drastically with short measure. Mr. Roberts reminded Mr. Doyle that under arrangements already made necessitous mothers and children under 5 years of age were able to obtain milk at reduced prices, but he was willing to consider, in consultation with the Minister of Health, any practical proposal on the lines suggested. Drastic action was being taken in regard to short measure and a number of prosecutions were pending.

Medical Referees.—Mr. R. Young asked the Minister of Pensions if the War Pensions Committee for Hastings were appointing additional doctors to act as medical referees; whether in these appointments he would advise that priority be given to doctors who had served in the services abroad and whose practices had thereby suffered, and that in those cases where the doctor was not on the panel under the National Insurance Acts this would be favourably considered as an additional reason for appointment, provided that in all cases the medical qualifications were equal to those of other applicants. Sir L. Worthington-Evans, in a written reply, stated that the answer to the first part of the question was in the negative. Local committees were not, in fact, empowered to appoint medical referees. It was the practice of the Ministry to give preference to medical men who had served abroad, with a second preference to medical men who had served at home, and subject to those preferences to appoint men who had not served, and amongst them doctors not on the panel were preferred as likely to be able to devote more time to the work.

The Training of Disabled Men.—Mr. Hayday asked, on November 12th, whether the Minister of Labour was aware that since August 1st last the Shepherd's Bush Local Employment Committee had submitted the names of 171 disabled men for training, and that up to date only two had been able to begin. Sir Robert Horne said the facts appeared to be as stated. The cause of delay was the insufficiency of training accommodation. Every effort had been and was being made to increase as rapidly as possible the facilities available.

Discharged Service Men in Public Lunatic Asylums.—In reply to Lieut.-Colonel Chilcott, on November 12th, Sir James Craig (Parliamentary Secretary, Ministry of Pensions) said that service men in public asylums were not classed as "pauper lunatics," but as "service patients." As such they were entitled to the privileges of private patients, the cost of their maintenance and of the special privileges accorded to them being borne by the Ministry of Pensions. It was not considered that the provision of separate institutions was practicable, nor was it expedient, having regard to the desirability of placing patients where their friends could visit them.

Disability Pensions Bonus.—Sir L. Worthington-Evans, in answer to Brigadier-General Colvin, on November 17th, stated that in the case of men the 20 per cent. disability pension bonus was now merged in the higher rates of pension which took effect from September 3rd last. In the case of officers the rate of disability retired pay had not been revised pending the further report of the Select Committee, but the Government had decided that the 20 per cent. bonus should cease to be a temporary addition and should form an integral part of the retired pay of temporary officers for the next three years.

Weekly Cost of Maintenance of Paupers, Convicts and Lunatics.—In reply to Mr. Charles White, Mr. Baldwin, on November 12th, gave the following information as to the average weekly cost for the years ending March 31st, 1914, and March 31st, 1919:

	1914.	1919.	Increase.
	s. d.	£ s. d.	s. d.
Paupers	10 0	1 0 6	10 6
Convicted prisoners .	14 5	1 17 10	16 5
Pauper lunatics	10 9½	0 16 8½	5 11

Similar figures for persons sentenced to penal servitude were: 1914, 18s. 2d.; 1919, £2 2s. 9d.: increase, £1 4s. 7d.

Taxable Income in the United Kingdom.—Mr. Chamberlain, in reply to Mr. Haslam, on November 13th, has circulated the following table as to the taxable income in the United Kingdom:

Year 1918–19.

Individuals with Incomes	Aggregate Taxable Income.	Per cent. of Taxable Income paid in Income Tax and Super Tax	Balance of Taxable Income after Deducting Income Tax and Super Tax.
	£	Per cent.	£
Exceeding £130 and not exceeding £2,500	1,327,700,000	8.2	1,218,276,000
Exceeding £2,500 ...	417,300,000	39.2	253,908,000

THE DARDANELLES EXPEDITION.

The Medical Arrangements.

The second and final part of the report of the Dardanelles Commission was published unexpectedly on Monday, November 17th. The first part of the report was presented in February, 1917, and dealt mainly with the higher organization—the War Council, the Admiralty, and the War Office—and with the results of the operations down to March 23rd, 1915. The Commission was appointed by Act of Parliament to inquire into the conduct of operations of war in the Dardanelles and Gallipoli, including the supply of troops, ammunition and equipment, the provision for the sick and wounded, and the responsibility of the various Government departments concerned. The first report did not deal with medical arrangements, but the second, which was signed on December 14th, 1917, discusses them at some length.

The medical arrangements were under the control of Surgeon-General Birrell from March 15th, 1915, to the later part of August, when he was succeeded by Surgeon-General Bedford. Surgeon-General Sir William Babtie was appointed Principal Director of Medical Services in the Mediterranean in May, 1915, and exercised general supervision over all the medical arrangements for the Mediterranean Expeditionary Force. Surgeon-General Birrell reached Alexandria on April 1st, 1915, but did not arrive at Mudros until April 18th, his representative in the interval being Lieut.-Colonel Keble. It is to the credit of Colonel Keble that he refused to accept an estimate of 3,000 casualties made by the general staff, and drew up a scheme of evacuation, subsequently endorsed by Surgeon-General Birrell, based upon an estimate of 10,000 casualties. The scheme provided for the accommodation of 1,995 serious cases on regular hospital ships, or, at a pinch, 2,409 cases, and for 7,300 not seriously wounded, or a grand total of 9,709. It appears that though at the time of the landing there was accommodation for the estimated number of serious cases in the hospital ships, the transports also allotted for the reception of wounded were not provided with the necessary appliances. The Commission is of opinion that in the actual circumstances of the landing the supply of hospital ships was insufficient, but the instructions given to Sir Ian Hamilton by the Secretary of State for War did not contemplate a landing, and therefore Surgeon-General Birrell had no opportunity of adapting his requirements to what actually happened. The Commission, however, thinks that if the administrative staff had accompanied General Head Quarters to Mudros the D.M.S. would have been in a better position to inform himself of the probable operations and to estimate the consequent requirements. Even when the intention to make a landing became known to him, however, he shared the assumption of the general staff that a considerable advance would be made, and that it would therefore be possible to collect and treat the wounded on shore. This expectation was not fulfilled.

Unfortunately the number of hospital ships, and even of hospital carriers, was very insufficient, and, owing partly to the difficulty of sorting cases, a large number of serious cases were taken to the transports (black ships), which were only equipped for light cases. The condition of the transports appears to have been extremely bad for about a month after April 25th; many were very dirty and some were carrying horses. As it was impossible to land them the horses and the wounded travelled to Alexandria on the same ship. There was also great deficiency in the medical staff, and this seems to have continued, for it would appear that on June 29th the *Saturnia*, filled with wounded, had no medical officer until she was boarded on their own initiative by several. This story is denied, but the denial is not accepted by Sir Thomas Mackenzie. Here, as in many other parts, the report is difficult to follow. The general conclusions of the Commission are summarized in the following paragraphs:

23. The provision for the evacuation of the wounded, especially in the matter of hospital ships, proved insufficient to meet the emergencies which actually arose. We think that, if the operations to be undertaken in landing on the peninsula had been considered before the expedition started and a general plan prepared, further provision of hospital ships might, and probably would, have been made.

24. We do not think that the Director of Medical Services, Surgeon-General Birrell, before leaving England had any opportunity of estimating the number of hospital ships required, as he did not know what operations were contemplated.

25. We think that the separation of the Administrative Staff, including the Deputy Adjutant-General and Director of Medical Services, from the rest of the Head Quarters Staff during the time immediately preceding the landing was a mistake, and that it would have been better if the Director of Medical Services had been kept more fully informed of the operations which were proposed. The time was very short in which to make preparations, and we doubt if it was then possible to obtain a sufficient number of hospital ships to accommodate the casualties which actually occurred. If Surgeon-General Birrell had been able to discuss matters with the General Staff he might have seen the necessity of, and been able to obtain, a fuller supply of appliances and equipment for the transports.

We think, however, that it would have been well if while in Egypt, where he was arranging for hospital accommodation on a large scale, he had made requisition for appliances such as would probably be required for even the less serious cases on the transports, such as bed-pans, blankets, pillows, and clothing. We recognize, however, that at that time he was separated from General Head Quarters, and therefore not possessed of adequate information as to the intended operations.

26. The scheme of evacuation drawn up by the Director of Medical Services was based on an estimate of casualties which was approximately correct, and would probably have worked satisfactorily if the anticipation of a rapid advance after the landing had been fulfilled. The failure of the scheme was mainly due to the fact that no substantial advance was effected, and that no hospitals could therefore be established on the land. This necessitated the immediate evacuation by sea of all casualties without any possibility of separating the serious cases from those of a slighter nature. The transports or black ships were therefore used for cases for which they were not intended, and for which they were not adequately staffed or equipped.

In these circumstances the greater part of the sufferings of the wounded in the first days after the landing seem to us to have been inevitable, but there appears to have been some want of organization in the control of the boats and barges carrying wounded to the hospital ships and transports, which occasioned delay in their embarkation.

27. For the dislocation of the arrangements for evacuation, owing to the non-fulfilment of the expectations of the military authorities, the Director of Medical Services cannot be held responsible. He could not do otherwise than be guided by the views entertained by the Commander-in-Chief, and conveyed to the latter's subordinates in the operation orders and instructions for the landings issued by General Head Quarters. It may, indeed, be contended that a prudent administrator, even though assured by superior military authority of the probability of success, would do well not to leave out of account the possibility of failure, but to be prepared alike for either contingency demands a flexibility of organization and an adaptability of resources which in war are seldom attainable.

28. After the first two or three weeks, until the heavy fighting in August, there was an improvement in the condition of the transports, though some of them continued to be unsatisfactory. The transports required close supervision, which was, however, much hampered by the want of means of communication between the several ships and the ships and shore.

29. The scheme for the evacuation of the wounded in the August operations was based upon an approximately correct estimate of casualties, and the supply of hospital ships was much larger than at the first landing. On the whole, this scheme worked well, though again there were cases in which the transports were not satisfactory, and the organization for transferring the wounded to the ships was imperfect.

30. After the middle of May the evacuation was made more difficult by the presence of enemy submarines. The transports were then unable to come to the beaches, the wounded being conveyed to them on trawlers and mine-sweepers, some of which were not suitable for their accommodation.

31. The field ambulances and clearing stations were, on the whole, efficient, considering the great difficulties under which the work in them had to be done.

32. The executive work of the medical officers and staff of the Royal Army Medical Corps and the Dominion Forces, and of the physicians and surgeons who placed their services at the disposal of the War Office, was performed with great energy, courage, and skill under very trying conditions.

33. The supply of medicines and other medical requisites was, on the whole, adequate, though at times there was a shortage of some drugs at some places. The food also was on the whole satisfactory, but at times it was not possible to give the sick and wounded all the variety of food which was desired, and at times the supply of water was insufficient.

34. The difficulties under which the evacuation of the wounded was carried out, especially in the early part of the operations, were exceptional and not easily surmountable. We think that in some cases there was a want of organization and supervision. The Director of Medical Services, Surgeon-General Birrell, did his best; we are of opinion, however, that he was not equal to the task of grappling with the exceptional conditions which arose.

35. Great help was given by the naval surgeons on the transports as well as on the trawlers and sweepers, and they were always ready to do everything in their power. It was not, however, possible to employ them on the transports during their voyage to Alexandria or Malta, as they could not leave their ships for an indefinite time. The naval officers concerned in the evacuation of the wounded gave every assistance and rendered excellent service.

The Anzac View.

Sir Thomas Mackenzie, who signs the general report, publishes also a supplementary report. Dealing with medical

matters, he says that the arrangements for the transport of the wounded were in a very unsatisfactory state until August, 1915. He expresses the opinion that the medical side of the campaign had never been thoroughly thought out. (He says the same of the War Office and military side.) Treatment of the wounded on the Gallipoli peninsula was, he says, as satisfactory as circumstances permitted, but many of the complaints as to the transport of men to the ships and overseas were justifiable. Though the medical authorities were informed that the military authorities expected the Turks to be driven back, so that room could be made for establishing hospitals ashore, provision ought also to have been made for the contingency of failure. Hospital ships were insufficient; troopships had to be converted into carriers and ambulance vessels, and were insufficiently staffed. The medical personnel did their utmost, but some of the wounded men had to shift for themselves. On some of the black ships the wounded were exposed to the sun and heat, without food or drink, for sixty or seventy hours. There was a shortage of equipment and supplies, and the sanitary arrangements on the converted trawlers were lamentably deficient.

That the medical arrangements, Sir Thomas Mackenzie continues, must have been inadequate and the organization seriously defective is confirmed by the fact that Surgeon-General Howse, V.C. (Major-General Sir Neville Howse, D.M.S. Australian Imperial Force), was impelled to give the following matured opinion:

> That he personally would recommend his Government, when this war is over, under no conceivable conditions to trust the medical arrangements that may be made by the imperial authorities for the care of the Australian sick and wounded.

Upon this Sir Thomas Mackenzie observes: "This is doubtless a strongly expressed view, and I think it is beyond question that a great improvement has been brought about since that time; but it is impossible to hold Surgeon-General Birrell free from a great deal of responsibility for the serious condition of affairs to which Surgeon-General Howse and other witnesses drew attention."

The general impression left by the report is unfavourable. It seems clear that whatever the merits, from the larger strategical point of view, of the attempt to seize the Gallipoli peninsula, the possibilities of success were destroyed by the hesitations of the Secretary of State for War and his advisers, and by their failure to form any coherent plan which could be consistently carried out by the officers on the spot. This uncertainty, as is always the case, inevitably reacted with exceptional force on the medical arrangements. Whatever the faults of the late Surgeon-General Birrell—and we believe that he failed to grip the situation—it would have needed a man of very exceptional capacity, prepared to incur the opposition of his military superiors, to have carried through plans that would have provided adequately for what actually happened—failure to occupy more than a narrow edge of the southern part of the peninsula of Gallipoli.

England and Wales.

Training of Midwives.

The Board of Education has issued draft Regulations proposed to be made for the training of midwives. They provide that a recognized institution shall be entitled to a grant of £20 for each student who completes a course of instruction which has been approved by the Board. The curriculum is to be prescribed by the Central Midwives Board, and it is satisfactory to learn that it is to include such subjects as the hygiene of pregnancy, the management of the infant, the encouragement of breast-feeding, the hand-feeding of infants, and elementary hygiene, personal, domestic, and general. Before a grant can be claimed for a particular student she must have been for three years at least in full time employment as a health visitor, or have completed successfully an approved course of training for health visitors, or she must sign a declaration that it is her bona-fide intention to practise as a midwife. In a circular (No. 10) from the Ministry of Health which accompanies these draft Regulations reference is made to the extreme importance of increasing the number of practising midwives, and local authorities are reminded that they can give adequate subsidies to midwives under maternity and child welfare schemes in those areas in which there is not sufficient employment to afford a midwife a proper livelihood. One half of such subsidies may be reimbursed by grants from the Ministry.

Central Midwives Board.

At a meeting of the Central Midwives Board held on November 12th, Professor Briggs presiding, the principal decisions arrived at arising out of the report of the Standing Committee were:

> That, provided a separate block and a separate staff of nurses are maintained, the Board sees no objection to the proposal of the medical superintendent of the Kensington Union Infirmary to treat cases of pregnant women suffering from venereal disease in the infirmary.
>
> Any institution which contemplates training pupil midwives for the certificate of the Central Midwives Board should communicate its intentions before it invites or receives pupils. If it fails to do so and trains pupils, it renders itself liable to difficulties with pupils so accepted in the event of the refusal of recognition by the Board. If it notifies to the Board its intention of training, the Board may (if it thinks all the arrangements promise well) advise the institution to commence or to continue training, and to reapply at a later date. When this second application is made, the Board may (if it is satisfied as to the training) recognize the training carried on since the commencement.

A penal cases meeting was held on November 13th, with Sir Francis Champneys in the chair. The principal charges against the seven midwives cited were those of neglect of ophthalmia neonatorum or puerperal fever, and failure to notify. Five of the midwives were struck off the roll, one was cautioned, and in the last case sentence was postponed.

Health of Liverpool.

The greatly increased death rate in Liverpool from 16.7 per 1,000 in 1917 to 19.5 in 1918 is attributed by Dr. E. W. Hope to the outbreak of influenza, which was, he states, the severest outbreak of the disease ever known in Liverpool. Neither age, sex, social position, nor the physical state of the patient afforded protection against it; the number of deaths recorded as due to it was 1,388. The restrictions upon the sale of alcoholic liquor was again accompanied by a decline in the mortality from excessive drinking, the decline being most marked in the case of women. This decline is associated with a diminution of destitution, child neglect, violence, and disorder. Dr. Hope states that considerable success has attended the venereal disease clinics which have been established at five different hospitals or institutions in Liverpool. He holds, however, that further legislation is necessary if an adequate return is to be obtained for the time and money spent on the scheme. He considers that a great defect is that no compulsion can be exercised on patients to complete their cure, so that large numbers of them give up treatment when the local manifestations of the disease have subsided and they are in comparative comfort. The suspension of building operations during the war years has seriously affected the housing conditions in Liverpool as elsewhere. This is evident from the bare but eloquent statement that while in December, 1914, there were 2,270 unoccupied houses, there were in December, 1918, only 375. It is estimated that at least 6,000 dwellings will be required before the needs of the working-class population are satisfied.

Control of Massage Establishments in London.

The Public Control Committee of the London County Council has decided that application should be made to Parliament next session for additional powers of control over establishments for massage or special treatment. Cases that under the present system of registration cannot be controlled have come to the notice of the Committee of registered persons having unsuitable associates, women carrying on business for persons of doubtful character, women immodestly attired when giving body massage to male patients, and the extension of registered manicure business to include body massage in unsuitable premises. In some establishments, also, the assistants possess certificates which are easily and quickly obtained after insufficient training. The proposals of the Committee are that annual licensing should be established, and that the licensing authority shall have power to refuse or revoke a licence on any one of a number of specified grounds, one of which is that a person giving massage or special treatment does not hold the certificate of either the Incorporated Society of Trained Masseuses or of some approved public hospital or teaching

school. A further provision to be included in the suggested legislation is that no massage or special treatment beyond that specified in the form of application shall be given except with the consent of the Council.

Reunion Dinner in Nottingham.

Tribute to the late Captain L. Moysey, R.A.M.C.

On November 13th a most successful dinner was given by the doctors of Nottingham and Notts to those of their colleagues who had served during the war. About 120 sat down at the Victoria Hotel, with Mr. A. R. Anderson, F.R.C.S., in the chair.

In proposing the health of the guests the chairman cordially welcomed them back and proceeded:

The medical profession during the war has suffered severe losses both on land and sea, but we have been very fortunate, because of all the number of our men who left Nottingham and the district, only one lost his life on active service, Lewis Moysey, whose untimely death we so deeply regret, and I feel that I cannot, and ought not, to allow this occasion to pass without reference to him. Although Moysey played the part and died the death of a hero, it seemed to me that he disappeared amid the fog and turmoil of the war with as little notice as a leaf now falling from the trees, yet he was conspicuous among men in many respects. He was educated at Repton, Cambridge, and St. George's Hospital, and began practice in Nottingham in 1900, and remained there until he went to the war. But although he continued his medical career he was much better known as a geologist than as a doctor. Geology was his hobby, and to it he devoted most of his spare time. He might be described as a geological specialist. He had a museum at his house which had acquired a wide reputation in geological circles, and had been several times visited by experts from the British Museum. He had written a book on *The Fossils of the Notts and Derby Coal Field*. He first described a fossil which bears his name and which has found a home in the British Museum. He was a Fellow of the Geological Society. There can be no doubt that had Moysey attained the same eminence in medicine that he did in geology he would have stood in the very front rank of the profession. In addition to this he was a distinguished sportsman. He was one of the best, if not *the* best, figure skaters in England. He won the medal in the first class at St. Moritz, and was selected to give an exhibition of figure skating before the late King Edward. He was a well known tennis player, a good cricketer, a fair shot, and a keen fisherman. When the war broke out Moysey was over military age, but after repeated applications, which were at first unsuccessful on this account, he obtained a commission at the end of 1914. He served in England, and after many endeavours to get to the front, he was appointed to a hospital ship in 1917. His ship, the *Glenart Castle*, was torpedoed in the Bristol Channel on the night of February 26th, 1918, when he lost his life by drowning. In addition to his other accomplishments, he was known to be a strong swimmer; probably he went down while endeavouring to save others. He left a widow but no children. Let us then do homage this evening to the memory of this all-round sportsman, of this learned and honourable and gallant gentleman, who never hesitated for a moment when his country called, and who gave up his life in its service.

Mr. Anderson dwelt for a few moments on the arduous time those who remained went through, but pointed out that this had no comparison with the dangers and trials of those guests who had served abroad. In proposing their healths he wished them all success on returning to their civilian duties. Colonel Herbert, I.M.S., in briefly responding, thanked the hosts for the splendid way in which they had combined to keep together the practices of the absentees. A well-organized musical evening terminated what was voted by one and all to have been the most successful and enjoyable medical dinner ever held in Nottingham.

Scotland.

Honorary Fellows of the Royal College of Physicians of Edinburgh.

From the date of its Royal Incorporation in 1681 down to the beginning of the nineteenth century the Royal College of Physicians of Edinburgh followed the practice of occasionally electing honorary Fellows. From the first the honorary roll contained the names of laymen as well as doctors. One of the last persons to receive the honour (then called the honorary membership) was Dr. Edward Jenner, the discoverer of vaccination. The Fellows some months ago decided to signalize the coming of peace and their admiration of the valour and humanity of the allied forces by offering the honorary fellowship to certain eminent persons in recognition of their distinguished service during the long struggle.

The Honorary Fellowship has now been offered to and accepted by the following:

Earl Beatty.
Mr. Henry P. Davison, chairman of American Red Cross.
Marshal Ferdinand Foch.
Viscount Grey of Falloden.
Earl Haig.
Professor A. Laveran, member of the Academy of Medicine, Paris.
Professor Marchiafava, vice-president of the Italian Red Cross, Rome.
Burgomaster Max of Brussels.
Cardinal Mercier, Belgium.
General Pershing, G.C.B., commander-in-chief of the U.S.A. forces.
Professor Roux, director of the Institut Pasteur, Paris.
General Smuts.
The Hon. Sir Arthur Stanley, G.B.E., chairman Joint War Committee, British Red Cross and the Order of St. John.
Professor William H. Welch, M.D., LL.D., director of the School of Hygiene and Public Health, Johns Hopkins University, Baltimore.

After the declaration of peace the Prince of Wales was elected the first Honorary Fellow and accepted the invitation.

Scottish Temperance Act.

The position of Scotland with regard to liquor control in the future is peculiar inasmuch as the Temperance (Scotland) Act, 1913, comes into force on the first day of next June. The Act is designed to "promote temperance in Scotland by conferring on the electors in prescribed areas control over the grant and renewal of certificates, by securing a later hour of opening for licensed premises, and by amending the law relating to clubs; and by other provisions incidental thereto."

Under this Act one-tenth of the number of local government electors in the areas into which Scotland is divided may demand a poll by ballot at which the electors will be invited to vote for one or other of the following three resolutions:

1. *No-Change Resolution* (means that the powers and discretion of the licensing court shall remain unchanged).
2. *Limiting Resolution* (means that the number of certificates for the sale of exciseable liquors shall be reduced by one-quarter in accordance with the provisions of the Act).
3. *No-Licence Resolution* (means that no certificate for the sale of exciseable liquors shall be granted except for inns and hotels or restaurants in special cases in accordance with the provisions of the Act).

A no-licence resolution will be deemed to be carried if 55 per cent. of the votes recorded are in favour of it, and not less than 35 per cent. of the electors on the register for the area have voted in favour of it. If a majority of the votes recorded are in favour of a limiting resolution, and not less than 35 per cent. of the electors vote in favour of it, the resolution will be deemed to be carried; but if a no-licence resolution be not carried, the votes recorded in favour of it will be added to those recorded in favour of the limiting resolution. Finally, if a majority of the votes recorded are in favour of a no-change resolution, or if no other resolution be carried, a no-change resolution will be deemed to be carried. While a no-licence resolution remains in force in any area no certificate will be granted therein, except that the licensing court may at its discretion, after inquiry, grant one or more certificates for an inn and hotel or for premises used as a restaurant. Any certificate so granted will be deemed to include the conditions that there shall be on the certificated premises no drinking bars, or other part mainly or exclusively used for the sale or consumption of exciseable liquors; that such liquors shall be sold by retail only, and only to persons lodging or residing in the house or taking a meal on the premises of the restaurant, or, if the court so sanctions, of the inn or hotel, for consumption with such meal.

The alterations with regard to clubs are matters of detail mainly concerned with extending and defining the grounds on which objections to the continuance of a certificate may be made. A requisition for a poll must be lodged during the month of September in any year with the clerk of the local authority, and the poll may be taken on any day (not a market day) the local authority may fix in the following November or December. Those in favour of total prohibition will no doubt make a great effort to

have resolutions to that effect carried; but *Blackwood's Magazine* for this month contains a rather remarkable article, entitled "A Woman—to Women," in which the writer, who is clearly in favour of total prohibition, states that "there seems to be an almost universal consensus of opinion in Scotland that it cannot be carried." The writer therefore makes an appeal to the women of Scotland to use their influence to induce Parliament to amend the bill by adding a fourth choice, which is State purchase. She relies mainly on the work of the Liquor Control Board, and especially on the success of the Carlisle experiment, as to which Dr. Henry Barnes has kept readers of the BRITISH MEDICAL JOURNAL so fully informed.

THE INFLUENZA EPIDEMICS IN SCOTLAND.

Dr. J. C. Dunlop, Superintendent of Statistics, has issued a special report on the mortality of Scotland during the prevalence of the epidemic of influenza in 1918–19 (H.M. Stationery Office, Cmd. 282). In all, 17,575 deaths were registered with respect to which influenza was one of the alleged causes. The previous maximum was in 1900 (2,826). As a cause of mortality, the late epidemic was the greatest in the statistical experience of Scotland. Scarlet fever in 1874–75, with 11,041 deaths, is a bad second. As elsewhere, deaths from influenza underestimate the real toll of the epidemic, and the excess mortality probably attributable to the disease was, at a maximum, 26,199, a moderate estimate being 22,000 deaths. In the principal towns the influenza death rate varied from 5.3 per 1,000 in Edinburgh and in Coatbridge to 3.2 in Aberdeen, 3.1 in Motherwell and in Kilmarnock. The times of attaining the maximum of mortality were various. Of the 16 principal towns, 4 reached their maxima in October, 1918 (Coatbridge, Motherwell, Hamilton, and Clydebank), 5 in November (Dundee, Aberdeen, Perth, Kirkcaldy, and Kilmarnock), 3 in February, 1919 (Edinburgh, Paisley, Leith), and 4 in March (Glasgow, Greenock, Falkirk, Ayr).

The age distribution of deaths shows the same peculiarities as have been remarked in other countries 34·96 per cent. of the total deaths occurred in the age group 25–45, while in 1900 only 10·22 per cent. of the mortality was so distributed. The crest of the autumn wave was higher than that of the winter one so far as influenza is concerned, but bronchitis and pneumonia were more fatal in the winter.

One is tempted to suppose that the relatively greater mortality in Scotland during the third wave was due to climatic conditions, but that the gross mortality of an influenza epidemic is not necessarily greater under northern skies is proved by the experience of Italy, which seems to have suffered more than this country.

In forecasting the future, we should bear in mind that, as Creighton remarked, 1889–90 opened a new chapter in the history of influenza, a chapter which we have no reason to suppose ended last spring. Prior to 1889 pandemics, although often occurring in groups, were spaced out, twenty or more years separating the groups. Since 1889 the intervals have been much shorter. Thus in Scotland there were more than 1,000 deaths from influenza in twelve of the years between 1890 and 1909. The present is not the time for discussing the general epidemiological problem involved, but it may be remarked that if, as some hold, an important factor is the increasing congestion of railways, tubes and omnibuses which has characterized the last few years, then the state of affairs arising out of a railway strike, with the consequent overcrowding of what public transport is available, should be viewed with misgiving.

58TH GENERAL HOSPITAL DINNER.

The first annual reunion dinner of the officers of the 58th General Scottish Hospital was held in Edinburgh on October 24th, some twenty members of the mess gathering together at the Caledonian Hotel. There were many joyful greetings and memories of happy times spent in France when the hospital was encamped at St. Omer. Colonel G. D. Graham expressed himself in warm terms at seeing so many of his old officers around him once again. He recalled the many difficulties which he as Commanding Officer and his staff had had in the course of their duties while at St. Omer, and though there were painful recollections of the bombing period there were many happy ones reminiscent of the loyalty and perseverance of his staff in making the hospital a real success.

Colonel Mackintosh, who represented the medical side of the hospital, spoke in glowing terms of Colonel Graham, who was loved by the officers under him and by the patients. Colonel Mackintosh spoke in high praise also of the nursing staff. Major Scot Skirving (the mess president), in a humorous speech, related many happy incidents which had occurred in the mess.

Colonel Grant Andrew, who had shown great zeal and originality in organizing the surgical work of the hospital and bringing it to a high standard of efficiency, referred to the smooth running of the administrative side of the hospital, due to the ability and co-operation of Colonel Graham on the one hand and the perfect unison of the junior staff on the other.

After the loyal toasts had been honoured, Colonel Graham returned thanks for all the kind compliments paid him. The assembly broke up with the singing of "Auld Lang Syne," and in the hope that all would be able to meet next year in Glasgow to celebrate the second reunion. The arrangements for the dinner, which were most successful, were made by Lieutenant J. L. Green.

Ireland.

IRISH PUBLIC HEALTH COUNCIL.

THE Irish Public Health Council at its last meeting, when Dr. E. Coey Bigger, Chairman, presided, had before it the heads of a draft scheme for a comprehensive health measure for Ireland, the further consideration of which was adjourned until the next meeting.

The council decided to recommend the removal of the existing statutory limit in regard to expenditure upon buildings and equipment of county infirmaries, to payment of county infirmary surgeons, increase of staff, and improvement of conditions of service.

A proposal to constitute the county the administrative area in respect of curative as well as preventive health services was approved. It was also agreed to recommend the appointment of county veterinary officers and the transfer of veterinary functions to a county health authority.

The committee in charge of the regulations under the Public Health (Medical Treatment of Children) (Ireland) Act met subsequently and considered in detail the draft regulations submitted. Arrangements were made to permit of the views of school managers' associations and other interested bodies being submitted to the council.

POOR LAW MEDICAL OFFICERS' SALARIES.

At a meeting of the County Kildare Medical Committee the following resolution was passed and forwarded to the different boards of guardians within the county:

> That we, the dispensary medical officers of the county Kildare, request the several Poor Law boards of the county to raise the salaries of their medical officers to the uniform sum of £300 per annum.

The Secretary was instructed to submit in connexion therewith the following considerations:

1. That the cost of living being now, according to the highest statistical authorities, 115 per cent. higher than it was six years ago, the sum we now ask for is equivalent, as nearly as may be, to the pre-war £140, which is less than many medical officers were receiving at that time.
2. That, therefore, the fact that since then they have been receiving a much less sum than that now asked for means simply that their salaries have been considerably reduced since then, as the only value of money consists in what it can buy.
3. That in the fixing of their salaries at £300 per year they ask you, therefore, not to increase but simply to revert to and maintain the pre-war value of their positions.

The Secretary was directed to add that the doctors of the county had thankfully accepted the smaller increases already granted in the hope that under improved conditions of living their increases would in practice prove adequate. But the cost of living remains at the same high level, and they regret they have to say that increases have not been adequate. Certain members of the board have attached what the Committee think an unfair importance to the fact that we are not whole-time officers. Only in a technical sense is that true.

Practically we are liable to service, and do render service every hour of the twenty-four. Day or night the dispensary service has first claim on us and when we treat private classes we do so at our own risk. The private practice is overtime work. No employer concerns himself with the surplus work of an employee, when, as in this case, the surplus work is not done for the employer. And in any case it is now recognized that a man's working life has its strict limitations, and that, "overtime" work is often too dearly earned in the end.

The note concludes by expressing the hope that each board of guardians will give a fair and full consideration to the reasons set forth for raising the salaries to a figure which will mean a "living wage" and no more.

TUBERCULOSIS IN BELFAST.

The report of the chief tuberculosis officer for the county borough of Belfast (Dr. Trimble) for the year ending March 31st, 1919, states that in April, 1918, the work of the City Tuberculosis Institute was transferred from temporary premises, which were unsuitable and much too small, to a bright and well ventilated building in the centre of the city, equipped with an *x*-ray apparatus and bacteriological laboratories. The total number of new patients examined in the year ending March, 1918, was 3,420; during last year only 2,358. Of this number the diagnosis of tuberculosis was made in 1,612, 246 were suspect, and 500 non-tuberculous. Compared with preceding years there was a marked increase in the number of non-tuberculous patients who appeared for examination. The percentages of these cases for the last three years are 4, 11, and 21.2. Dr. Trimble does not suggest any explanation. The pulmonary forms of tuberculosis steadily maintain a ratio of about 77 per cent. to all other forms combined, but the relatively small number of glandular (197), osseous (110), and abdominal (52) forms do not as truly indicate the incidence of these types as the number for the pulmonary indicate its incidence. The largest number of cases is found, as was to be expected, between the ages of 15 and 25, and females as usual are in the majority (F. 989, M. 749). Amongst occupations, the textile industries have a decided preponderance, but the relative proportion of these in the community is not given. As usual, labourers and housewives form a large percentage. From one of the charts by which the report is illustrated it is to be gathered that the highest incidence occurs in the most densely populated wards, which supports the generally accepted view that overcrowding contributes largely to the spread of the disease. Dr. Trimble sums up the results as to "contacts" in the statement that 42 per cent. of patients have had an admitted personal association with tuberculosis, and shows that the mother heads the list of relations suffering from the disease. The bacteriological work seems small, but doubtless with the new laboratories it will increase in time. Another feature this year is the large number of discharged soldiers and sailors presenting themselves for examination; Dr. Trimble, as medical adviser to the Belfast Insurance Committee, gives several tables illustrating this section of the work.

The patient may be treated at the institute, may be attended in his own home by his own doctor, or may be admitted to a sanatorium. A record is kept of each case, and all patients are visited in their homes by the nurse in charge of the district; upwards of 47,746 visits were made by nurses during the past year. As to the results of treatment, 153 cases were registered as apparently cured, and in 188 the disease had become quiescent. Dr. Trimble points out truly that the number of apparent cures does not represent the full benefit derived from the work of the department, for in this disease prevention is of paramount importance; many more incipient cases are seen now than in former years. Open air classes and physical drill for tuberculous school children are now being held. The deaths during the year numbered 1,343; of these 1,051 died of pulmonary tuberculosis, an increase of 119. Dr. Trimble accounts for this increase on two grounds: the one is that in the case of 65 discharged soldiers and sailors the disease was due to or aggravated by active service, and the other is the two epidemics of influenza; during them the deaths from pulmonary tuberculosis increased by 134 beyond the number dying from that disease in the corresponding period of the previous year. Some mention of the financial aspect would render the report much more complete.

Correspondence.

CHRONIC PANCREATITIS.

SIR,—In a paper published in your issue of November 15th Mr. James Nicoll discusses chronic pancreatitis. Most surgeons will agree with his main conclusions, but there are certain statements regarding diagnosis which may be questioned. Mr. Nicoll states that "the diagnosis is nearly always a matter of difficulty" and "frequently the difficulties prove insuperable until an excised portion of the gland is examined microscopically."

Although chronic pancreatitis is an insidious disease and rarely exists alone, it has a definite train of symptoms and, in spite of the fact that early signs are not infrequently masked by those of the underlying primary condition, in the great majority of instances a reliable diagnosis can be made. This may demand exhaustive examinations of the excreta by a skilled clinical pathologist, but the help afforded is well worth the trouble entailed.

In the investigation of pancreatic disease quantitative analyses are really essential, especially in the earlier stages. The only quantitative method which Mr. Nicoll appears to employ is Wohlgemuth's test. Of all the diagnostic aids, to my mind, the chemical analysis of the faeces comes first. It is quite true, as Mr. Nicoll points out, that large light-coloured greasy stools are only found in a minority of cases, but chemical investigation will always reveal that, on an average diet, there is a disturbance in the normal relation between the neutral fats and the free fatty acids, and also the proportion of "unsaponified fat" to "saponified fat" is much increased. The estimation of fats and fatty acids by the microscope alone is but a rough-and-ready method. Mr. Nicoll does not mention the determination of the "trypsin index" of the faeces, which has proved of considerable diagnostic value.

The reliability of the "pancreatic reaction" (Cammidge) has been questioned by many observers, but when performed quantitatively it is very helpful as a means of detecting early disturbances in carbohydrate metabolism long before glycosuria develops. When taken in conjunction with other signs it provides useful data.

Treatment, as Mr. Nicoll states, must be on lines calculated to cure the initial condition as well as the pancreatitis. In the cases secondary to gall stones—and these are by far the most common—removal of the stones and prolonged drainage of the ducts will generally bring about a cure. The question of cholecystectomy, when there is associated pancreatitis, is debatable. If there is anything in the view of Mauguret, recently championed by Deaver, that the route of pancreatic infection in gall stone cases is by the lymph stream and not by the bile ducts, then only good can ensue from the removal of a diseased and infected gall bladder.

It is pleasing to note that, with the lapse of years, chronic pancreatitis is becoming recognized as a definite clinical entity, and is not now regarded merely as an unimportant complication of other disorders.—I am, etc.,

London, W., Nov. 18th. J. A. CAIRNS FORSYTH.

PHYSICAL EDUCATION.

SIR,—In your issue of November 8th you call attention to a letter in *The Times*—to which I was a signatory—which made certain proposals with a view to improving the physique of the people. The use of the term "physical education" seems to have given rise to some misconception as to the purport of these proposals.

Our letter defined physical education as that variety of education which deals with the rest, recreation, and exercise of the people, and did not propose a system of "physical drill." It is fully recognized that the physical education of school children rests with the Board of Education, but the Education Act provides for the "young person" only. Under present conditions, either at 14 or 18, the young person passes beyond the control of the Board and then finds no organized provision for rest or recreation in the form of clubs or games.

Dr. Farquharson strays wide of the mark in imagining that any system of State control is suggested in our proposals. On the contrary, it is recognized that such interference or the suspicion of it should be made impossible,

by the formation of a National Council established by the people themselves and absolutely free from Government supervision of any sort.

It is our wish to evolve a system that will provide and maintain outdoor games and indoor clubs for all the people throughout their active lives, utilizing for these purposes existing organizations. Present arrangements are far too haphazard, and at the same time too often dependent on casual generosity. Our letter therefore suggested an organized system providing both for the co-operation of the Ministry of Health and the approval of the people through a National Council.

The British Red Cross and Order of St. John, newly chartered to work for the general health of the community, have in their voluntary aid detachments a complete organization capable of co-operating, as in America, on the lines indicated. We have not presumed to advise their joint council, but we believe that their assistance will be as generously given for health in peace time as it was for sickness in time of war.

A directorate of physical education under the Ministry, and in touch with the Board of Education, would be in a position to collate, analyse, record, and distribute information, and by assisting to develop physical education on scientific lines would in time prove itself not the least important factor in preventive medicine.—I am, etc.,

London, W., Nov. 13th C. GORDON WATSON.

SAFETY OF ETHYL CHLORIDE.

SIR,—With Mr. C. B. Dale's views on the safety of ethyl chloride I am in entire agreement. His own experience amply justifies them. When, however, he says that he has never heard of a death from this anaesthetic it suggests that he has not gone into the earlier literature of the subject. I have seen no deaths reported in the medical journals for several years past. Ethyl chloride has been an established anaesthetic since about 1905, and it is reasonable to suppose that the occurrence of a death under it might not now be deemed worthy of record by everybody. What is more impressive is that during this period, so far as I am aware, this anaesthetic has not been the cause of any coroners' inquests, notices of which, when an anaesthetic is concerned, are nearly always to be found in the lay press.

If Mr. Dale is interested in the matter he will find in my monograph on ethyl chloride a brief account of fatalities that occurred previous to 1907. The majority were due to its administration to unsuitable subjects. Given to children in suitable doses and in a semi-open method, I believe it is absolutely safe.—I am, etc.,

London, W., Nov. 9th. G. A. H. BARTON.

SIR,—I quite agree with Mr. Bowen and Mr. Dale that ethyl chloride is, for the ordinary operation for tonsils and adenoids, an admirable anaesthetic, affording the right type of narcosis and just the requisite duration of unconsciousness. Given by those who are constantly engaged in this branch of work it is also reasonably safe. But the effects are produced very rapidly, and there is a definite risk of overdose in the hands of quite inexperienced persons. Mr. Dale gives ethyl chloride two thousand times a year, and has no deaths and few frights. Clearly a case of cause and effect.

As regards method, Mr. Bowen did not in his article of October 4th refer to the "vapour" modification of the closed system. If the vial containing ethyl chloride be brought gradually into contact with hot water contained in a cup, the drug may be volatilized under the eye of the administrator, and a more even increase of vapour strength obtained than by tilting the fluid into the bag. Theoretically this accords with the principles by which one likes to give any anaesthetic, and, practically, the results are very good.

I gladly take this opportunity to correct an error in this connexion which occurs in my *Handbook of Anaesthetics* just published by Messrs. E. and S. Livingstone, and to which my attention has been drawn. On p. 125 I ascribe the origin of the method to Dr. Logan Turner, from whom I personally learnt its merits, but who now tells me that the original suggestion came from Dr. J. H. Gibbs of Edinburgh. I must express my sincere regret that the credit for this real advance and safeguard is not given to him in my little book.

Apart from the operation for tonsils and adenoids, ethyl chloride has to compete with nitrous oxide and oxygen. The subject is too large to open in a brief letter such as this, but many of us, I think, look forward to the time when the former will have to give place to a great extent to the latter in its modern shape and developments.—I am, etc.,

Edinburgh, Nov. 11th. J. S. ROSS.

SIR,—I was interested to see Dr. C. B. Dale's letter in the BRITISH MEDICAL JOURNAL of November 8th (p. 616) on the safety of ethyl chloride.

I have often heard that it is a very dangerous anaesthetic, but only know of one death—where, I believe, the cause was an overdose. I have used it in about 700 cases, and have seen a like number of administrations, and in no case have I seen the slightest cause for anxiety.

Blumfeld[1] gives a dosage table which I have found very useful. He points out that variations in the dose are necessary, according to the physique or habits of the individual. He emphasizes the importance of minimizing the dose.—I am, etc.,

Holt, Norfolk, Nov. 8th. A. S. HENDRIE.

SIR,—I am quite in agreement with Dr. Dale that ethyl chloride in trained hands is by no means a dangerous anaesthetic; but at the same time I must express a little surprise that he has never heard of a death under this drug. In the third edition of *Anaesthesia in Dental Surgery*—by myself and Dr. J. Stuart Ross (1910)—he will find a list of twenty-five casualties under ethyl chloride.

I fully believe the deaths were due to lack of skill and training on the part of the administrator, if not to actual carelessness, but the fact remains. The idea seemed to prevail among some people that ethyl chloride was a sort of "pocket laughing gas," but they rapidly became disillusionized, and the pendulum rather swung the other way from scaremongering—in the metropolis for the most part. Deaths have since been rare apparently, for while preparing the fourth edition[2] of this book, just out, neither Dr. Ross nor myself found any records of such in the various journals.

The relative safety of the drug compared with ether is very difficult to estimate, but will depend largely on the class of the operation and the experience of the anaesthetist. In the early days—1900–1902—one worked pretty much in the dark, a dose of 7 to 8.10 c.cm. in an Ormsby inhaler being commonly used, and the administration stopped at the discretion of the anaesthetist. I certainly recall several very bad frights, due largely to respiratory spasm. The insertion of a Mason's gag and tongue traction, with sometimes artificial respiration, restored the patient quickly to the normal, but I fancy the surgeon had some misgivings at times!

For adenoids I used to regard it as the anaesthetic *par excellence* after trying ethyl bromide (nasty stuff), nitrous oxide (which gave too short an anaesthesia), and chloroform (which was too dangerous). This was specially so when one was asked — most unjustifiably, I think — to anaesthetize a nervous child in one room and "charge him up" for transport to the operating room and completion of the operation there—both tonsils and adenoids requiring removal, perhaps.

The *lack* of haemorrhage in such cases was sometimes significant, and it is not a thing which, in my opinion, should be attempted.—I am, etc.,

Peebles, Nov. 8th. T. D. LUKE, M.D.

SIR,—I am rather surprised that Dr. C. B. Dale should not have heard of a death from ethyl chloride, in view of the fact that one large hospital in London about ten years ago held an inquiry into the subject, and, I believe, discarded the use of the drug as a general anaesthetic on account of a number of fatalities. I cannot agree that ethyl chloride is nearly so safe as ether. Though it takes longer to administer, I think most people who have had experience in the use of both would regard "open" ether as far safer than ethyl chloride, particularly in the case of children.—I am, etc.,

Ledbury, Nov. 12th. LESLIE B. C. TROTTER.

[1] *Anaesthetics*, 1906, page 61.
[2] London: W. Heinemann

THE R.A.M.C AS A CAREER.

SIR,—In the JOURNAL of October 11th one may read an address given by Sir John Goodwin, K.C.B., C.M.G., D.S.O., Director-General A.M.S., on "The R.A.M.C. as a Career," and in the same issue appears an article in which attention is drawn to the fact that the recent appeal of the War Office to medical practitioners to accept temporary commissions in the R.A.M.C. has met with a poor response, notwithstanding the pecuniary inducements offered.

The Director-General appears to believe that his service offers great attractions to young medical men as a permanent career, and he naïvely asserts that were he starting life again as a newly qualified man he would unhesitatingly choose it for himself. A very pleasing picture is drawn of his ideal commanding officer of a hospital, but one cannot help wondering if such a man would be likely to find favour in the eyes of the powers that be, and in a service in which proved inefficiency, even in war time, may be followed by appointment to the highest posts.

When I was a medical student the R.A.M.C. was chiefly recruited from those whose professional qualifications were below the average, and one of the ironies of the past few years is that civilian practitioners of repute have had as their "superior" officers some men for whom they could have but scant respect; but, nevertheless, they were expected to bear with patience and due humility the ineptitudes of these officials, who knew full well that they could look to the great Whitehall red-tape machine for support.

My advice to any newly-qualified medical man who contemplates entering the R.A.M.C. is to ponder well before he puts his future welfare in the grip of a soulless machine in which if at some time or under certain circumstances he should show symptoms of independence, individuality, or initiative, he will be in danger of being "crushed," and his call for justice will be as the voice of one crying in the wilderness.

Surely it is a better fate to wear out retaining one's self respect than to rust out as part doctor part soldier, but chiefly clerk, even though weighed down by the burden of so-called "honours." How great must be a people who could win the war in spite of manifold handicaps!—I am, etc.,

Cardiff, Nov. 7th. W. M. S.

THE SERVICES.

SIR,—As an old naval surgeon and temporary major R.A.M.C., I have read the letters of your correspondents concerning the naval and military medical services with great interest. Except in the hour of dire necessity, both the Admiralty and War Office treat the medical profession with scant ceremony and absolutely no sympathy. This I can vouch for from painful personal experience after eight and a half years in the one and four years in the other service.

I would suggest that instead of the separate naval, military, and air force medical services, the whole three be amalgamated into a general war medical service. A broken leg is a broken leg and a case of measles is a case of measles, whether ashore or afloat. Moreover, naval medical officers have often served on land and R.A.M.C. officers in ships before now. There are many minor difficulties and some major to be met with in my scheme; but, after all, "difficulties were made to be overcome," and I believe a solution to many legitimate grievances would be found in my suggestion, which is not made without due consideration.—I am, etc.,

Sevenoaks, Oct. 18th. GERALD SICHEL, F.R.C.S.

MEDICAL APPOINTMENTS UNDER THE MINISTRY OF PENSIONS.

SIR,—Would it not be possible to classify medical officers who wish to attend medical boards in the following way?

(*a*) Discharged and demobilized doctors who have nothing to come back to.

(*b*) Discharged or demobilized doctors who have to rebuild their practices.

(*c*) Discharged or demobilized doctors who are in partnership.

(*d*) Medical men who have had experience on medical boards but have never served in the Forces.

Preference should be given to medical men who fall in (*a*) and (*b*). The reasons for employing those in (*a*) are obvious—namely, that their whole attention and unbiassed opinion can be given both for the good of the pensioner and of the State; also it is a means of obtaining for them a living. It is not possible for all medical men to purchase practices.

Those in class (*b*) should come next according to the size more or less of their practices. In class (*c*) one must consider the number of medical men who are in partnership, for it is quite possible for two or more men to be in partnership and for each to be employed on Medical Board examinations, and thus taking from their less fortunate brother practitioners. If medical men who are in partnership wish to sit on the boards, only one of the firm should be allowed to do so.

The last class (*d*): these doctors have had the satisfaction of increasing their practices owing to other medical men being called up, and in the majority of cases have not endured the hardships of serving abroad; in fairness to those who have returned, they should voluntarily decline to accept any more boards, as medical men who have been demobilized and have nothing to do would only be too thankful for the opportunity of taking their places as an only means of their livelihood.

During my experience of Medical Board work I have noticed that the busy general practitioners are constantly consulting their timepieces, presumably wondering how many more cases there are to see before they are free to continue their private visits; therefore their attention is divided, and that generally means neglect of proper examination, resulting in injustice to the pensioner or to the State.—I am, etc.,

November 17th. DISCHARGED MEDICAL OFFICER.

GENERAL MEDICAL COUNCIL ELECTION (SCOTLAND).

SIR,—Will you allow me through your courtesy to thank the registered medical practitioners of Scotland for again electing me as their representative on the General Medical Council, and to say that I shall spare no effort to merit this renewed expression of their confidence?—I am, etc.,

Edinburgh, Nov. 18th. NORMAN WALKER.

Universities and Colleges.

UNIVERSITY OF OXFORD.

MR. T. B. HEATON, B.M., B.Ch., has been appointed Lee's Reader in Anatomy.

At a congregation held on November 15th the degree of doctor of medicine was conferred upon W. J. Pearson and F. C. Gladstone.

UNIVERSITY OF CAMBRIDGE.

AT a congregation held on October 31st the following medical degrees were conferred:

M.D.—W. C. Hodges, R. G. Canti.
M.B., B.Ch.—L. P. L. Firman-Edwards, E. W. Williams.
M.B.—F. N. V. Dyer.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

MEETING OF COUNCIL.

AN ordinary Council was held on November 13th, when Sir George Makins, President, was in the chair.

Diploma of Membership.—Diplomas were granted to seventy-eight candidates found qualified at the recent examinations.

Dissection.—The Council passed a resolution expressing the satisfaction with which it had learnt that the control of unclaimed bodies of deceased persons in England and Wales had been transferred to the Minister of Health, and urging that the question of the shortage of "subjects" for the education and examination of medical and dental students in London and the provinces should engage the sympathetic attention of the Minister at an early date. It was determined that the regulation that candidates for the Licence in Dental Surgery should have performed dissections at a recognized medical school during not less than six months be suspended.

The vacancies in the Court of Examiners and in the Board of Examiners in Dental Surgery, occasioned by the retirement of Sir Herbert F. Waterhouse, will be filled up at the ordinary Council on December 11th.

Board of Scientific Societies.—Sir George Makins and Sir Charles Ballance were re-elected as representatives of the College on this Board.

ANNUAL GENERAL MEETING OF FELLOWS AND MEMBERS.

The annual general meeting of Fellows and Members will take place at the College on Thursday next, November 27th, at

3 p.m. The honorary secretary of the Society of Members informs us that the following resolutions will be sent in:

1. That this thirty-fourth annual meeting of Fellows and Members again affirms the desirability of admittin Members to direct representation on the Council of the College, wh ch as now constituted only represents those Members who also hold the Fellowship; and that it does so in order that the constitution of the Council of the Royal College of Surgeons of England shall be in keeping with modern ideas of true representation.
2. That as the Royal College of Surgeons i composed of about 19,000 persons, of whom nearly 18 000 are engaged in general practice, this annual meeting requests the President and Council to nominate at least two Members in general pr ctice to represent the interests of general practitioners in the management of College affairs.
3. That the President is hereby invited to make a statement to this meeting as to the views of his Council on the subject of the second resolution.

CONJOINT BOARD IN ENGLAND.

The diplomas of L.R.C.P. and M.R.C.S. have been conferred upon the following seventy-nine candidates who have passed the final examination in medicine, surgery, and midwifery, and have complied with the necessary by-laws:

W. J. McB. Allan, F. T. Allen, G. F. Baxter, Grace M. Beaven, W. H. Bennett, E. J. Bilcliffe, C. M. Billington, Alice Bloomfield, M. R. Böe, J. V. C. Braithwaite, P. C. Brett, H. Brookman, A. R. Campbell, J. D. M. Cardell, Marjorie C. Chaipe, O. T. J. C. de H. Clayre, Enid M. M. Cobb, H. Cohen, H N. W. Collins, R G. Dansie, Sarah H. Davies, A. K. Day-Lewis, J. P. De Silva, W. H. Dixon, H. Donovan, K. M. K. Duff G. P. Evans, V. N. Fenton, W. D. Forrest, Dorothy W. Gowers, C. Griffith-Jones, E. A. Hardy, H. W. Hardy, W. G. Hay, H L. Heimann, E. P. Hicks, F. B. Hobbs, H. C. Hopkinson, Mabel M. Ingram, J. A. Iswariah, Shankar Ramchandra Joglekar, R. B. P. Lansdown, L. Lavine, R C. B. Ledlie, H. T. Le Vieux, F. G. Lewtas, N. J. Macdonald, J. S. Mo re, G. Y. Oliver, Sibyl G. Overton, W. G. Owen, J. C Pauw, W. W. Payne, H W. Pigeon, Eleanor M. Reece, A. H. Richards, S. Rose, M. Sarkies, E R. Sarra, Ruth M. Scutt, C. G. D. Siggs, J. V. A. Simpson, D. F. Standing, C. M. Strong, W. S. R. Thomas, R. Thursz, W. G. Tilleke, Ruth C. Townshend, G. M. Trist, D. L. Tucker, W. Walsham, W. E. M. Wardill, Effie A. Wharton, A. C. S. Whiteway-Wilkinson, Margaret A Williams, T. Williams, C. B. Wilson, M. L. Young, T. F. Zerolo.

Obituary.

Inspector-General Adam Brunton Messer, R.N. (retired), died at Eastbourne on October 11th, aged 81. He was the youngest son of the late Adam Messer of Blainslie, and was educated at Edinburgh Academy and at Edinburgh University, where he graduated M.D. in 1858. He entered the navy as surgeon in 1859. As surgeon of the *Curacoa* he served in the New Zealand war of 1863–64, when he was in medical charge of the Naval Brigade at the battle of Rangariri, was mentioned in dispatches for gallantry in attending the wounded under fire, specially promoted to staff surgeon, and received the medal. In May, 1867, he was appointed to the *Melville* hospital ship at Hong Kong, and in 1873 to the *Pearl*, the flagship of Commodore Goodenough on the Australian station; in 1875 he was present when the Commodore was killed by a native with a poisoned arrow, on a small Pacific island. He received the thanks of the Director-General for a report on the poison used in arrows, which was published by the Admiralty. He also wrote a valuable report on the Fiji islands, which led to the annexation of these islands by Great Britain. In 1877 he joined the *Temeraire* in the Mediterranean, then commanded by Captain (afterwards Admiral Sir) Michael Culme-Seymour, and in 1881 the *Northampton*, flagship of Sir Leopold McClintock on the North American station. As D.I.G. he was in charge of the naval hospitals of Plymouth and Malta successively. He was appointed Inspector-General in 1892 and retired in 1896. He became honorary physician to the Queen in 1899, and held the same appointment to King Edward and King George, and received the two coronation medals. On February 8th, 1904, he was awarded a Greenwich Hospital pension. He also had gained the Sir Gilbert Blane Gold Medal.

Colonel Alfred Henry Anthonisz, R.A.M.C. (retired), died at Coonoor, Nilgiri Hills, South India, on October 27th, aged 74. He was born at Colombo on December 22nd, 1844, educated at Aberdeen, where he graduated M.B. and C.M. in 1867, and entered the army as assistant surgeon on April 1st, 1871, being posted first to the staff, and then, in 1873, to the 108th Foot, now the 2nd Battalion of the Royal Inniskilling Fusiliers. He became colonel in 1899, and retired in 1904. He served in the Egyptian war of 1882, receiving the medal and the Khedive's bronze star; in the Sudan in 1885, at Suakin, gaining a clasp, and in the South African war in 1899–1900.

Captain M. P. Bhargawa, I.M.S., was reported as killed in action, on the Indian frontier, in a casualty list published on October 25th. He took a temporary commission as lieutenant on October 5th, 1916, and was promoted captain after a year's service.

Medical News.

As a memorial of Professor J. Dejerine, Madame and Mdlle. Dejerine have placed a fund at the disposal of the Paris Society of Neurology for research in neurology.

Colonel A. H. Tubby, C.B., C.M.G., will read a paper on some surgical experiences of the war in the Near East at the meeting of the Hunterian Society to be held at the School of Oriental Languages, Finsbury Circus, on Wednesday, November 26th, at 9 p.m.

The annual dinner of past and present students of St. Mary's Hospital, postponed owing to the railway strike, will be held at the Connaught Rooms on Friday, January 9th, 1920, when Sir Almroth Wright will take the chair at 7.30 p.m.

We are informed that the British Federation of Medical and Allied Societies (late Medical Parliamentary Committee) has secured permanent offices at 5, Vere Street, Cavendish Square, London, W.1.

M. de Lanessan, formerly Governor-General of Indo-China and Minister of Marine in the Waldeck-Rousseau Cabinet in 1900, who has died at the age of 76, was originally a member of the medical profession.

The Chadwick trustees will award in the year 1920 a Chadwick gold medal and a prize of £100 to the naval and military medical officer respectively in the British service who during the past five years of war has most distinguished himself in promoting the health of the navy and army. The prize will be awarded on the nomination of the Directors-General of the Naval and Army Medical Services respectively.

Sir Malcolm Morris presided over a luncheon on November 7th, at the Criterion Restaurant, in connexion with the private representation at the Alhambra Theatre of a cinematograph film, entitled "The End of the Road," approved by the National Council for Combating Venereal Diseases. The speakers included Lord Downham, Chairman of the London County Council and formerly President of the Local Government, Dr. Mary Scharlieb, Mrs. A. C. Gotto, General Secretary of the Council, and the Chairman.

In aid of the appeal to the general public on behalf of St. Bartholomew's Hospital, which was inaugurated at a luncheon at the Mansion House, Mr. George Robey, C.B.E., is organizing a concert, to be held on Sunday, November 30th, at 2.30 p.m., at the London Coliseum. Contributions towards the People's Peace Year Commemoration Fund in aid of St. Bartholomew's Hospital may be sent to Viscount Sandhurst, Treasurer of the Hospital, London, E.C.

The United States Public Health Service is calling on medical practitioners to volunteer their services for an effort to prevent a recurrence of last year's epidemic of influenza. A conference was recently held at New York at which a number of bacteriologists agreed to unite in a collective study of the causative agent of the disease. This conference marks the beginning of a Federal, State, and municipal effort.

Mr. John D. Rockefeller has given to the General Education Board founded by him in 1902 the sum of £4,000,000 to be used for the improvement of medical education in the United States.

Dr. W. O. Beddard, of the Inner Temple, has been called to the Bar.

The war library and museum in Paris (39, Rue du Colisée) owes its origin to a gift made to the French Government by M. and Mme. Henri Leblanc. The library comprises books, periodicals, maps, and manuscripts relating to the war; and the museum, models, pictures, photographs, medals, and so forth. Contributions of medical interest are invited. The secretary is M. P. Fontana.

A new journal of military surgery, *La Revista delle Battaglia* (Review of Battles) has been founded in Italy. The address is 16, via del Nazareno, Rome.

A QUARTERLY meeting of the Medico-Psychological Association of Great Britain and Ireland will be held at 11, Chandos Street, W.1, under the presidency of Dr. Bedford Pierce, on Tuesday, November 25th, at 2.45 p.m. Papers will be read by Dr. C. Hubert Bond, commissioner of the Board of Control, on the need for schools of psychiatry, and by Major W. S. L. Shaw, I.M.S., on the treatment and administration of mental diseases in India.

A NURSE discharged or demobilized from any of the services and in receipt of retired pay (or a gratuity) for a disability due to or aggravated by war service is entitled to assistance from the Ministry of Pensions, and any nurse suffering from a disability she believes to be due to or aggravated by war service who is not receiving retired pay (or a gratuity) is entitled to have her claim to retired pay and medical treatment considered. Applicants are advised, where possible, to furnish evidence of the causation or aggravation of the disability by service, and to obtain medical evidence of the present condition. Communications should be addressed in writing to the Secretary, M.S. 2 (Officers), Ministry of Pensions, 14, Great Smith Street, Westminster, S.W.1. A nurse who merely requires advice on these matters should apply to the Officers' Friend, Ministry of Pensions, Westminster House, Millbank, S.W.1.

AT a preliminary meeting of medical officers of infant welfare centres, held recently in London, it was resolved to ask the Association of Infant Welfare and Maternity Centres (which is a section of the National League for Health, Maternity, and Child Welfare) to convene a meeting with a view to the early formation of a permanent organization of such officers. The association willingly agreed to this, and a meeting has been fixed for Tuesday, November 25th, at 5 p.m., at the Royal Institute of Public Health, 37, Russell Square, W.C.1.

DR. GUTHRIE RANKIN left £54,362. Among the legacies was one of £500 to his old friend, Sir William Babtie, V.C. In memory of his wife the testator bequeathed £1,000 each to the Provident Fund of Epsom College, the Samaritan Fund of the Dreadnought Hospital, and the Samaritan Fund of the Royal Waterloo Hospital for Children and Women.

THE annual meeting and dinner (10s. 6d. without wine) of the Old Epsomian Club will be held in the Oak Room of the Trocadero Restaurant on Thursday, December 11th, 1919, Mr. S. Maynard Smith, C.B., in the chair. As there is important business to be transacted before dinner, the annual meeting will be held at 6 p.m., the dinner following at 7.30 p.m. The list of addresses of members of the club is to be reprinted, and it is desired that members will write to Mr. E. M. Corner, 37, Harley Street, W.1, or Mr. R. Farrant, Westminster Hospital, S.W.1, signifying their present address and whether they intend to be present at the dinner.

A MEETING of the Lancashire and Westmorland Tuberculosis Society will be held at the Public Health Laboratory, Manchester, at 3 p.m., on November 27th, when it will be proposed to extend the society to include Cheshire. Professor Sheridan Delépine will open a discussion on infection and predisposition in relation to tuberculosis. Further particulars can be obtained from Dr. G. Jessel, County Tuberculosis Dispensary, Leigh, Lancashire.

The Times correspondent telegraphs that excavations adjoining the portico of the temple of Aesculapius at Epidaurus have brought to light a portico (stoa) with mosaics. Near the great reservoir two other buildings have been discovered, with columns, pedestals, and a statue of Hermes. The excavations at Epidaurus were begun by the Greek Archaeological Society in 1881. The reservoir lies about 500 ft. north of the portico which adjoins the temple.

A MEETING of the Supreme Economic Council is to be opened in Rome on Saturday (November 22nd). Among the subjects to be discussed, in addition to co-operation in the purchasing of food and the economic situation in South Russia, is a proposal for the establishment of an International Scientific Food Commission. The English deputation is headed by the Food Controller. As will be seen by the account given elsewhere in this issue of the annual report of the Medical Research Committee, a proposal to establish a Human Nutrition Research Board in this country is now under consideration, and we observe that among the delegates to Rome is Mr. A. W. Flux, a member of the committee which has been appointed to draw up a scheme. Mr. Flux, however, is an economist. It would, we think, have been well that the British delegation should have included a physiologist.

Letters, Notes, and Answers.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London*; telephone, 2631, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London*; telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London*; telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.

QUERIES AND ANSWERS.

"C." asks for experience in the treatment of inoperable cancer by the method recommended by the late Dr. Lovell Drage.

DR. C. W. BRANSON (Bournemouth) asks for experience in the treatment of epilepsy by silver nitrate, and an estimate of the chances of success in a case of almost lifelong duration in a young man who also has albuminuria.

TREATMENT OF PRURITUS.

"SUBSCRIBER" asks for advice in the treatment of obstinate pruritus of axillae and breasts in a woman aged 48. The condition, which has now lasted some years, becomes pronounced on rise of blood pressure from any cause, or even when the patient becomes warm on exertion. Uncontrolled scratching follows and an attack leads to comple nervous exhaustion. One or two small nodules in axillary glands have lately appeared. Ordinary unguents and lotions have throughout failed to modify symptoms. Is the condition a menopause phenomenon likely to subside if the patient's health can be sustained?

INCOME TAX.

"P. H. B." inquires whether repayment can be obtained in respect of tax paid at the "earned" instead of at the special "service" rate of income tax.

*** The special service rate would not apply to payments made to him by a serving practitioner for whom he was acting as locumtenent, but in so far as he has paid tax on emoluments issued to him by the War Office for military hospital work at a higher rate than the appropriate service rate he can claim repayment.

The statement of claim should be sent to the inspector of taxes for the district in which the excessive tax was paid, and *can be made within the three years* following the year for which the payment was made.

"Z. Y. X." has been left a small estate in Chili, in trust, consisting of shares and house property. What should be the basis of his income tax declaration?

*** The Income Tax Act, 1918, Sch. D, Case v, Rule I, provides that "income arising from stocks, shares, or rents in any place out of the United Kingdom shall be computed on the full amount thereof . . . whether the income has been or will be received in the United Kingdom or not. . .," but in our opinion this rule does not apply to "Z. Y. X." "Income arising" must mean income arising to the person assessed. "Z. Y. X." does not directly derive his income from stocks, shares, and rents but from his "foreign possession," which is his right as a beneficiary in the trust estate. He is therefore entitled to base his return on the amount actually received in this country—for the past year on the receipts of that year, for the second year on the same figure, for the third year on the average of the two first years, and thereafter on the average of the three years prior to the year of assessment.

"G. F. O." inquires whether he is entitled to deduct the cost of removal from one town to another as a professional expense.

*** Apparently not. Our correspondent is assessable in respect of each practice separately, and the expense of removal is not strictly incurred in the working of either practice.

LETTERS, NOTES, ETC.

ANAESTHESIA IN TONSIL AND ADENOID OPERATIONS.

DR. WALTER GRIPPER (Wallington) writes: Dr. H. L. Hamilton may care to know of a method which I have used for a long time in giving ethyl chloride, especially to children for dental work. The bag and face-piece of a Clover or other inhaler are connected, and into the bag is dropped a tabloid tube of

about ½ in. diameter fitted with, preferably, a rubber stopper. The tube is graduated by file marks into c.cm. divisions. Ethyl chloride is sprayed into it—never more than 2 c.cm. for ages from 12 to 16 years. As soon as the face-piece is applied, and the bag somewhat distended by a breath or two, the little tube is felt for by the hand through the bag, and by pressure of the thumb the stopper, assisted by the vapour pressure upon it, easily slips out. If the tube is kept upright the vapour is set free slowly, and usually within a dozen breaths the child is under enough for two or even three extractions. I find the inhalations may be stopped directly the eyelid reflex is lost. For tonsil and adenoid operations I only use this method for quite young children and with a quick operator, but frequently commence anaesthesia by spraying a little on to an open mask and following with chloroform or chloroform and ether. The usual cross-wires on the bag attachment should be removed to facilitate the insertion of the tube.

"ANAESTHETIST" writes: In reply to Dr. Jephcott's inquiry (October 25th, p. 550), I have used ethyl chloride alone during the past five years for the enucleation of tonsils, etc., and have found it highly satisfactory and very rapid. It gives a long enough anaesthesia for a surgeon who is accustomed to removing tonsils. For one who only operates occasionally and requires a longer anaesthesia I administer the ethyl chloride C_2H_5Cl sequence. Notwithstanding all that has been written about it being a dangerous anaesthetic I consider it fairly safe, and the administrator can always depend upon obtaining a satisfactory depth of anaesthesia. I have had no deaths under it, and never had to perform artificial respiration after it. When I administered it with a rubber bag (which is the closed method) I noticed once or twice that the patients were a bit livid and deeper than I intended. During the past few years I have only administered it by the open method. This consists of a Schimmelbusch's chloroform mask with six or eight layers of gauze fixed to it, and a piece of cotton-wool six inches wide and long enough to surround the circumference of the base of the mask as it lies on the face, so as to exclude the air from entering between the mask and face. The dome of the mask must not be covered by wool in order that a plentiful supply of air enters. The ethyl chloride is poured onto the mask and applied to the face, and shortly the patient is fully anaesthetized. The dose for children is 5 c.cm. and adults 7 to 8 c.cm. Children under 5 years or very weak ones only require about 3 c.cm. We operate on eighteen tonsil cases per hour, and do all circumcisions and scrapings of glands under it. The great secret is not to overdose the patient to begin with, that is, do not exceed the above doses, and once deep regular stertor occurs remove the mask at once. If the surgeon is doing a minor operation and the patient is coming out, drop a little more on to the mask until he goes under again, and keep on doing so until the surgeon is finished.

MEDICAL DEMOBILIZATION.

"PARTHIA" writes: May I, through the medium of your paper, call attention to an unsatisfactory state of affairs in order that those responsible may read and perhaps investigate the matter? Many medical officers have been invalided home from the East after one or more years of malaria or dysentery. These officers are refused demobilization, even though they have house appointments offered them, or wish to study, the authorities stating that they have not served long enough in the army. In contrast to this, others who have never been abroad, even though qualifying in 1917 or 1918, are now demobilized and are securing the best positions. Also, we are told that we may expect demobilization in five or six months, when an Act of Parliament will compel the medical authorities of the army to release us. Cannot something be done to hurry up our release, as though we are told we cannot be spared, former experience suggests that time will hang heavily on our hands till we are demobilized? In parenthesis, showing that the desire to get back to work again is genuine, I would mention that I spent my first leave for two and a half years in taking an examination lasting three weeks.

SCHOOLBOYS' WEIGHT.

DR. RICHARD HAMILTON (Parkstone) writes: I regret that no one who has replied to my letter in the JOURNAL of September 27th has been able to give weights for day scholars. I doubt very much if they ever lose weight in term unless from illness, whatever boarders may do. From what I have heard privately, I am convinced that there is a great deal of underfeeding in boarding schools, even expensive ones. In my opinion, "extra milk" and "tuck boxes" condemn the dietary of any school where they are required to supplement the ordinary rations. I regard this underfeeding at schools as a matter of the very greatest importance to the nation—one that the leaders of the medical profession might well investigate.

ASPIRIN IDIOSYNCRASY.

DR. B. THOMAS (Derby) writes: I have just been reading the short note on "Aspirin idiosyncrasy" under Memoranda in the BRITISH MEDICAL JOURNAL, November 1st, p. 560. A similar case came to my notice while serving as temporary surgeon, R.N. The case was that of an officer about 28 years of age, who for some years had been suffering from frequent transitory urticarial eruptions.

During the influenza epidemic of August, 1918, he was given 10 gr. of aspirin, and he very quickly developed a severe urticarial rash, which, however, faded in the course of a day. A week afterwards he walked into my cabin in the early morning very distressed. His eyelids and practically his whole face were puffy and bloated, and he had a widespread rash over his body. His voice was husky, and he had severe respiratory distress. The rash cleared during the next day, and the puffiness of the face was quite cleared by the following day. I found that he had taken 5 gr. of aspirin before retiring that night, and the symptoms had developed about four hours afterwards.

PENAL REFORM LEAGUE.

THE Penal Reform League aims at the amelioration of the conditions of prison life and the improvement of criminal procedure, especially in the case of juvenile offenders. It contends that detention in prison should be utilized to elevate the ideals and moral aspirations of the prisoners, and so minister to the prevention of crime, apart from merely punitive measures. In a recent issue of the *Record* published by the league appeared a few points of medical interest. Amongst other matters discussed on the occasion of a deputation to the Home Office organized by the league last March was the demand that fully trained nurses should form an integral part of the staff of all prisons. The Home Secretary seems to have received this suggestion with favour, remarking as regards their sphere of usefulness in prisons for females that "if you have a trained nurse in and about watching these women, you may prevent a great deal of sickness, in addition to nursing that which occurs." It appears from questions he answered in Parliament that, although professionally trained nurses are at present only called in from outside when required for special cases, ex-R.A.M.C. orderlies are attached to the larger male prisons as hospital officers, after undergoing two months' special training, and that in female prisons many of the female officers have had previous experience of nursing, and all go through a course at the training school of at least one month's training in simple hospital duties, and the Prison Commissioners contemplate extending this period to six months. Some of the lady speakers urged the appointment of female medical officers for the treatment of women prisoners as likely to be more sympathetic towards their own sex than the male prison doctor. Further, it was suggested that at least two ladies should have seats on the Prison Commission, and that women's prisons should be administered by women governors, who would be able better than a man to deal "with the more intimate life of women." The Home Secretary seemed to favour increased powers and responsibility in the hands of the lady inspector and women visitors in furtherance of the objects desired.

"SHELL SHOCK AT MARATHON."

DR. R. MACD. LADELL (Killinghall, Harrogate) writes: My attention was called to this passage in Herodotus some months ago by Professor H. Rose, now of Aberystwith. I have been carefully hoarding it to produce on the next suitable occasion, but *Science* has forestalled me. There must have been something peculiarly dreadful in the aspect of his Persian antagonist to have thus "shocked" Epizelus into amblyopia, as hitherto, we are told, he had been "fighting valiantly." Possibly the antagonist was not a Persian, but some barbaric mercenary of unfamiliar form. No doubt the subsequent notoriety and kudos resulting to Epizelus from his misfortune would go far to reconcile him with his lot and to establish his functional trouble as permanent.

R.S.V.P.

"DEMOBBED" writes to urge that there is an obligation upon principals to reply promptly to those who respond to their advertisements for assistants or partners. "I have written to four such, and in no case succeeded in obtaining a reply in less than a week. Many of us who wish to settle down are living on our war savings, and some of us are married."

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 37, 40, 41, 42, 43, 44, and 45 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 38, 39, and 40.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	0	6	0
Each additional line	0	0	9
Whole single column	4	0	0
Whole page	12	0	0

An average line contains six words.

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NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.